PRELIMINARY ENVIRONMENTAL ASSESSMENT REPORT
PRESTON WEED CONTROL COMPANY
12363 WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

PROJECT NO. 201804

PREPARED FOR

UNION PACIFIC CORPORATION
Real Estate Department
1416 Dodge Street
Omaha, Nebraska 61879

PREPARED BY

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September 1987

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1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF WORK

The purpose of this preliminary environmental assessment is to determine if contamination exists at a site vacated by Preston Weed Control Company (Preston), located at 12363 Whittier Boulevard, Whittier, California. This assessment provides an overview of the site by compositing and analyzing soil samples. It is not intended to provide specific lateral or vertical contamination limits. The vacated property is owned by Union Pacific Railroad (UP).

The scope of work included the following tasks:

- Perform a historical review to determine the past use of the site.
- Perform a geophysical survey to locate underground obstructions prior to drilling and sampling.
- Hand auger and analyze near-surface (0-3 feet), composite soil samples in 13 areas of potential contamination.
- Drill 10 auger borings (20-feet depth) to obtain composite soil samples in areas of an underground storage tank and apparent product loadout pads.
- Analyze soil samples for total petroleum hydrocarbons (TPH), polynuclear aromatic compounds (PNA), chlorinated hydrocarbons (CHC), semi-volatile organic compounds (BNA), or total lead based on apparent past utilization at the sample location.
- Prepare a preliminary environmental assessment report on findings and suggest remedial activities.

1.2 HISTORICAL REVIEW

1.2.1 Project Site History

The project site is listed by the Los Angeles County Tax Assessor as Parcel Number 9688 8141 002 803. The Parcel is designated for general industrial use under the Land Use Element of the City of Whittier's General Plan. The

property is outlined in Figure 1 - Site Plan and Sample Locations. The site presently contains an office/warehouse with two loading docks, garage with sump, cement-bermed aboveground tank farm with a pumping station, building foundations, pipelines, and an underground storage tank. Prior to 1967, the site address was 725 West Whittier Boulevard.

The property was owned by Union Oil from 1920 to 1951 on which we understand they operated a bulk plant. No records could be located for site usage for the period 1951 to 1955.

Preston leased the property from UP during 1955 to 1986 (personal communication, E. J. Boranian, Records Management Coordinator, City of Whittier, June 3, 1987). Preston used the site essentially for the storage and dispensing of pesticides and packaged products manufactured by chemical companies. Apparently, Preston vacated the property in October 1986.

1.2.2 Storage Facilities and Wells

The California Department of Water Resources reported to IT that their records indicate no existing water wells within a one-mile radius of the site.

According to Mr. John K. Peck, Senior Civil Engineer, City of Whittier Engineering Department (personal communication, June 2, 1987), a 10-inch sewer line exists adjacent to the site on the west. It is unknown whether or not the property is connected to the sewer line. There are no records of a septic tank permit with the City of Whittier Safety Department, or at the Los Angeles County Building and Safety Department in the city of Bellflower.

Information gathered from the local fire department (Station 28) indicated that Preston applied for and obtained a permit on March 3, 1969 for the 550-gallon underground gasoline tank. The same permit included the storage and dispensing of pesticides in an oil base from three 20,000-gallon aboveground tanks. According to Mr. John Akers (personal communication, June 4, 1987), two of the aboveground tanks were removed from the property about 15 to 18

years ago. Preston apparently used the aboveground tanks to store products such as "Arco Weedkiller 'A' Lite" and "Chevron Weed Oil". A label found on-site described the Arco product as an aromatic petroleum hydrocarbon herbicide. The Material Safety Data Sheets (MSDS) are in Appendix D. Both brands are described as light catalytically - cracked distillate. None of the four tanks are registered with the Waste Management Division of the Los Angeles County Department of Public Works.

1.2.3 Industrial Discharge Permits

A record search at the Industrial Waste Division of the County Sanitation Districts of Los Angeles indicated that no industrial discharge permit has been issued to Preston.

1.2.4 Notices of Violation

A record review at the Los Angeles County Department of Health Services, local fire department, Fire Prevention Unit, and the Petro-Chem Unit of the Los Angeles Fire Department indicated that no violations have been issued to Preston.

2.0 FIELD INVESTIGATION

2.1 SURFICIAL SAMPLING

On May 19 through 21, 1987, 42 surface and near-surface soil samples were collected from 13 areas of the site (see Figure 1). The 42 samples were composited into 13 samples by the analytical laboratory prior to testing. The surface and near-surface soil samples were collected to verify the levels of chemical constitutents from areas that appeared to have higher utilization within the site.

Surface samples were collected to one-foot depths by hand trowel. Near-surface samples were collected from one-foot to approximately three-feet with a manual, 2-inch diameter hand auger, or a power, 4-inch diameter auger. The soil samples were placed in 16-ounce glass jars which were taped, labeled, and placed on ice in preparation for shipment to the laboratory. The analytical

test results of these surficial samples therefore represent a depth interval. The samples were entered into the IT Chain-of-Custody procedures to provide integrity during shipment to the laboratory. The following table lists the sample location, method of sampling, number of samples and composites per location, for soil samples collected at the site.

TABLE 1
SURFICIAL SAMPLE LOCATIONS

Area	Location	Method	Number of Samples	Number of Composites
1	Inside tank farm	Manual Auger	11	2
2	Tank farm sump	Power Auger	1	1
4	Old foundation	Manual Auger	4	1
5	Garage floor	Manual Auger	4	1
6	Garage sump	Power Auger	1	1
8	Office/warehouse	Manual Auger	1	1
10	Product pipelines	Manual Auger	6	3
11	Southeast surface	Manual Auger	3	1
12	Northeast surface	Manual Auger	5	1
17	Northwest surface	Manual Auger	6	1

2.2 SOIL BORINGS

Ten soil borings were drilled by A&R Drilling, Inc., Long Beach, California with a Central Mining Equipment Model 75 rig using 8-inch outside (3.75-inch inside) diameter hollow-stem augers. Sampling was performed by using a modified Mobile Open Spindle System (MOSS) which allows rapid retrieval of the sampler attached to a cable hoist. This wire line system serves to sample continuously in ten foot segments. The sampler consists of a 2.5-inch (I.D.) x 10.0 foot long split-barrel which is driven during auger advancement. The MOSS sampler was cleaned with a trisodium phosphate solution and distilled water between borings to remove the contaminated soil before beginning a new boring.

Soil samples from the borings were composited from depths of 5, 10, 15 and 20 feet before shipping to the laboratory for analysis. The samples were placed in 16-ounce glass jars taped, labeled, and placed on ice in preparation for shipment to the laboratory. The samples were entered into the IT Chain-of-Custody procedures to provide integrity during shipment to the laboratory (Appendix A).

The following table lists the boring locations and composite sample numbers for samples collected at the site. Refer to Figure 1 for boring locations.

TABLE 2
BORING SAMPLE LOCATIONS

Area	Location	Boring	Composite Sample Number
7	Underground tank	1	no visible contamination
		2	1
		3	2
		4	4
9	Loading dock	5	5
		6	6
		7	7
3	Pumping station	8	8
		9	9
		10	10

3.0 LABORATORY TESTING

3.1 METHODS

Soil samples were shipped to IT Laboratories in Santa Clara and Cerritos, California for laboratory analyses. Areas of sampling and tests performed at each area are listed in Table 3. Test methods are summarized in subsequent paragraphs. Sample locations, along with field identification and corresponding laboratory numbers, are listed in Appendix B - Laboratory Certificates of Analyses.

TABLE 3
LABORATORY TESTS

Area	Location	Laboratory Analysis
1	Tank farm	TPH, BETX, PNA, PCB, Pesticides
2	Tank farm sump	TPH, BETX, PNA, CHC
3	Pumping station	TPH, BETX, PNA
4	Old foundation	TPH, BETX, PNA, CHC, PCB, Pesticides
5	Garage floor	TPH
6	Garage sump	TPH, CHC, Pesticides
7	Underground tank	TPH, Total Lead

8	Office/warehouse	PNA, Pesticides
9	Loading dock	TPH, BETX, PNA, Pesticides
10	Product pipelines	TPH, BETX, PNA, Pesticides
11	Southeast surface	BNA, Pesticides, CHC
12	Northeast surface	BNA, Pesticides
13	Northwest surface	TPH, Pesticides, CHC

Pesticides and Polychlorinated Biphenyls (PCB)

The method of analysis for organochlorine pesticides and PCB is adapted from the E.P.A. Methods 3550 and 8080. Extraction is performed with dichloramethane. The extract is analyzed by gas chromatography with an electron capture detector. Additional clean-up of the extract was performed to remove excessive amounts of elemental sulfur and certain sulfur containing compounds.

Polynuclear Aromatic Hydrocarbons (PNA)

The method of analysis for PNA is taken from E.P.A. Methods 3550 and 8100. Extraction is performed with methylene chloride. Final detection is by gas chromatography using a flame ionization detector.

Chlorinated Hydrocarbons (CHC)

The method of analysis for CHC in soil is taken from E.P.A. Methods 3550 and 8120. Extraction is performed with methylene chloride. Final detection is by gas chromatography using an electron capture detector.

Benzene, Toluene, Ethylbenzene and Xylenes (BTEX)

The method of analysis for low boiling hydrocarbons (BTEX) is taken from E.P.A. Methods 8015, 8020 and 5030 with gasoline as the reference standard. Extraction is performed with the purge and trap technique. Final detection was by gas chromatography using a flame ionization detector and a photoionization detector.

Total Recoverable Petroleum Hydrocarbons

The method of analysis for total recoverable petroleum hydrocarbons in soil is taken from E.P.A. Methods 3550 and 418.1. Extraction is performed with 1,1,2 - Trichlorotrifluoroethane. The hydrocarbon content of the extract is determined by infrared spectroscopy.

Semi-Volatile Organic Compounds

The samples were analyzed for semi-volatile organic contaminants using combined gas chromatography-mass spectrometry according to a modified E.P.A. Method 8270.

Lead

The samples were digested with acid. The acid solution was analyzed for lead by flame atomic absorption spectroscopy according to E.P.A. test Method 7241.

3.2 RESULTS

The laboratory test results indicate that total recoverable petroleum hydrocarbons (TPH) are present in soil in the garage area, north of the garage, and around the underground tank. Samples collected from the surface of the garage floor (Area 5) were composited into one sample prior to testing. The results indicate that TPH is present at 4,400 parts per million. Samples S1, S2, and S4, representing composited soil samples from borings B2, B3 and B4 respectively, contain TPH concentrations ranging from 100 ppm to 1000 ppm. The soil sample (6A) collected near the garage sump (Area 6) contained 480 ppm of TPH. This sample was collected at an approximate depth of 3 feet below the surface. Elevated concentrations of TPH (430 ppm) were detected in Area 13 behind the garage.

TABLE 4
TOTAL PETROLEUM HYDROCARBONS RESULTS

Area	Location	Laboratory Composite Sample No.	TPH Concentration (ppm)
5	Garage floor	5(A,B,C,D)	4,400
6	Garage floor	6A (3'-4')	480
7	Underground tank	S-1 (Boring 2)	1,000
7	Underground tank	S-2 (Boring 3)	100
7	Underground tank	S-4 (Boring 4)	110
13	Northwest surface	13 (A,B,C,D,E,F)	430

Soil samples from several areas of the site (see Table 3) were also tested for low boiling hydrocarbons, including benzene, ethylbenzene, toluene, and xylenes (BETX), which are typical constituents of gasoline. The results indicate that no samples contained detectable BETX. In addition, composite soil samples from the borings near the underground tank were analyzed for total lead (see Appendix A - Laboratory Analyses). The lead concentrations range from 4.8 milligrams per kilogram (mg/kg) to 19 mg/kg. These concentrations are below the 1,000 mg/kg Total Threshold Limit Concentration (TTLC) Values for Persistent and Bioaccumulative Toxic Substances according to Section 66699, Title 22 of the California Administrative Code (CAC).

Soil samples were analyzed for organochlorine pesticides, polychlorinated biphenyls, polynuclear aromatics, and chlorinated hydrocarbons (see Table 3 and Appendix A). Table 5 - Pesticide Results, lists the organochlorine pesticides detected. Neither other pesticides nor polychlorinated biphenyls were detected in other samples.

TABLE 5
PESTICIDE RESULTS
(concentration in ppm)

Area	Location	Sample	DDE	4-4' DDT	Chlordane	Dieldrin
8	Loading dock/warehouse	8A	0.24	2.0	0.8	ND
10	Product pipelines	10C,10G	0.01	0.05	0.23	ND
		10A,10E	ND	0.02	ND	ND
11	Southeast surface	11A-11C	ND	ND	2.9	0.05
12	Northeast surface	12A-12E	ND	0.02	ND	ND
1	Inside tank farm	1A-1M	0.01	0.03	0.09	ND

Concentrations of chlordane in composite sample 11A-11C and 4-4' DDT in sample 8A exceed the Total Threshold Limit Concentrations (TTLC) Values for Persistent and Bioaccumulative Toxic Substances, according to Section 66699, Title 22 of the California Administrative Code (CAC). Therefore, these substances are considered hazardous waste. The southeast surface (Area 11) contains chlordane at 2.9 ppm and the loading dock/warehouse area contains 4-4' DDT at 2.0 ppm. The TTLC for chlordane is 2.5 milligrams/kilogram (mg/kg), equivalent to parts per million, ppm, by weight) and is 1.0 kg/mg for 4-4' DDT. None of the other compounds in Table 5 exceed the TTLC for Extremely Hazardous Wastes listed in Section 66723, Title 22, CAC. Since DDT degrades over time into DDE and aldrin degrades to dieldrin, it is possible that some of the concentration of DDE and dieldrin shown in Table 5 represents degradation products in the soil.

Soil samples from the office/warehouse and surrounding area (southeast [Area 11] surface and northeast [Area 12] surface) were further analyzed for semi-volatile compounds on the EPA Hazardous Substances List (Contract Laboratory Program). The laboratory analyses are included in Appendix A. Of these EPA Hazardous Substances compounds, 2,4-Dinitrophenol, 4-Nitrophenol, 3,3-Dichlorobenzidine, Nitrobenzene, 2-Nitrophenol, and Pentachlorophenol are also listed as Extremely Hazardous Wastes in Section 66680, Title 22 of the California Administrative Code.

The relatively high analytical detection limits shown in the Certificates of Analyses for the EPA Hazardous Substances (semi-volatile compounds) vary among samples. The high detection limits of the semi-volatile compounds are apparently a function of the high concentration of aliphatic hydrocarbons in the soil (present in concentrations up to 200 ppm). These aliphatic hydrocarbons may be residues of formulations used to distribute the pesticides. Therefore, the minimum detectable concentrations of some of the EPA Hazardous Substances may not be indicative of the substances as they exist in the soil, due to the difficulty in extracting the compounds from soil containing relatively high concentrations of aliphatic hydrocarbon matrix.

Various other "non-priority" semi-volatiles were detected and are listed in Table I, Appendix A. These compounds include the aliphatic hydrocarbons, phthalates (assumed to represent rubber), aromatic hydrocarbons, and unknown compounds.

4.0 SITE GEOLOGY

4.1 LOCAL GEOLOGY

The approximate site elevation is 235 feet above mean sea level. The property regionally lies within the La Habra Valley at the west flank of the Puente Hills and is surrounded by the Puente Hills to the northeast, the Whittier Narrows to the north, San Gabriel River to the west and Coyote Hills to the South. The Whittier fault zone is approximately 1,000 feet north of the site.

The site is generally underlain by Plio-Pleistocene and Recent deposits. The Fernando Formation (Pliocene) consists of massive fine to coarse grained sandstone containing interbedded pebbly sandstone and conglomerate. The San Pedro Formation (Lower Pleistocene) consists of massive coarse-grained friable sand, pebbly sand, and gravel separated by layers of clay and silty clay. Recent deposits are not easily separated from Upper Pleistocene strata; however, where exposed, the latter can be distinguished by their relatively poor consolidation and less weathered character.

The lower Pleistocene San Pedro Formation is an important water-bearing deposit with ground water levels typically ranging from within 40 to 190 feet of the ground surface.

Based on samples collected from borings, B1 through B10 to 25 feet (refer to Appendix C for boring logs), the site is generally underlain by the following units:

- From surface to a depth of approximately 15 feet: reddish brown moist clay to silty clay.
- From approximately 15 to at least 25 feet below the surface; coarse grained, poorly sorted, moist, gravelly sand.

The gravelly sand unit appears to increase in thickness and decrease in depth from west to east. Borings B1 and B4 may have encountered tank backfill material at a depth interval between approximately 3 to 6 feet below the surface.

5.0 CONCLUSIONS

Union Pacific Railroad leased the project site to Preston Weed Control Company for about 31 years. Preston stored and distributed pesticides while leasing the property.

The site contains an office/warehouse with two loading docks, garage with sump, concrete-bermed aboveground tank farm with a pumping station, building foundations, pipelines, and an underground storage tank. The storage capacity of the aboveground tank is approximately 20,000-gallons and the capacity of the gasoline underground tank is about 550-gallons.

A preliminary environmental assessment of the site was completed by collecting 42 surficial soil samples in 13 areas, and 35 samples from 10 auger borings. The initial samples were composited to represent each area and each boring for a total of 23 soil samples which were then analyzed. The soil samples were analyzed for organochlorine pesticides and polychlorinated biphenyls, polynuclear aromatics, chlorinated hydrocarbons, low boiling point hydrocarbons, total recoverable petroleum hydrocarbons, semi-volatile organic compounds, and total lead.

The following areas have total petroleum hydrocarbons in the soil above 100 ppm, which has been considered by the Los Angeles County Department of Public Works, Waste Management Division to be the approximate action level required for site remediation. The final TPH action level will be determined by the County. The surficial soil samples were composited to 3-feet, therefore the vertical extent of TPH contamination has yet to be determined.

TABLE 6
AREAS ABOVE TPH ACTION LIMITS

Area	Concentration
Garage floor and sump	480 to 4,400 ppm
Underground storage tank	100 to 1,000 ppm
Northwest surface	430 ppm

The following areas contain detectable pesticide concentrations exceeding the TTLC value for Persistent and Bioaccumulative Toxic Substances listed in Title 22, CAC.

TABLE 7
AREAS ABOVE TTLC IN TITLE 22, CAC

Area	Concentration
Southeast Surface	Chlordane 2.9 ppm
Warehouse, Loading Dock	4-4' DDT 2.0 ppm

In addition to the office/warehouse and southeast surface areas, the northeast surface may contain EPA "Priority Pollutants." Although compounds were detected, the high detection limits are apparently caused by the concentration of aliphatic hydrocarbons in the samples. These hydrocarbons may represent oils or other agents typically found in pesticides as wetting agents (surfactants). The soil samples were composited to 3-feet, consequently, the vertical extent and concentration of contamination has yet to be assessed.

6.0 RECOMMENDATIONS

Based on the results of this preliminary environmental assessment, IT concludes that additional data will be required before the exact degree of remedial action can be determined and the cost estimated. It is logical, however, to proceed with site demolition first in order to have clear access for sampling. IT therefore recommends the following steps in site demolition and additional assessment to determine the vertical extent of contamination:

1. Demolish and remove the existing buildings to include foundations. Assess samples of foundations for hazardous materials.

2. Remove and dispose of the aboveground tank, berm, and foundation. Obtain samples of concrete and assess for hazardous materials.

3. Remove vegetation from site after assessing for toxicity.

4. Remove and dispose of the underground storage tank, associated piping, garage sump, and TPH contaminated soil.

5. Prepare a Work Plan and submit for approval to the Los Angeles County Department of Public Works, Waste Management Division (probable lead agency).

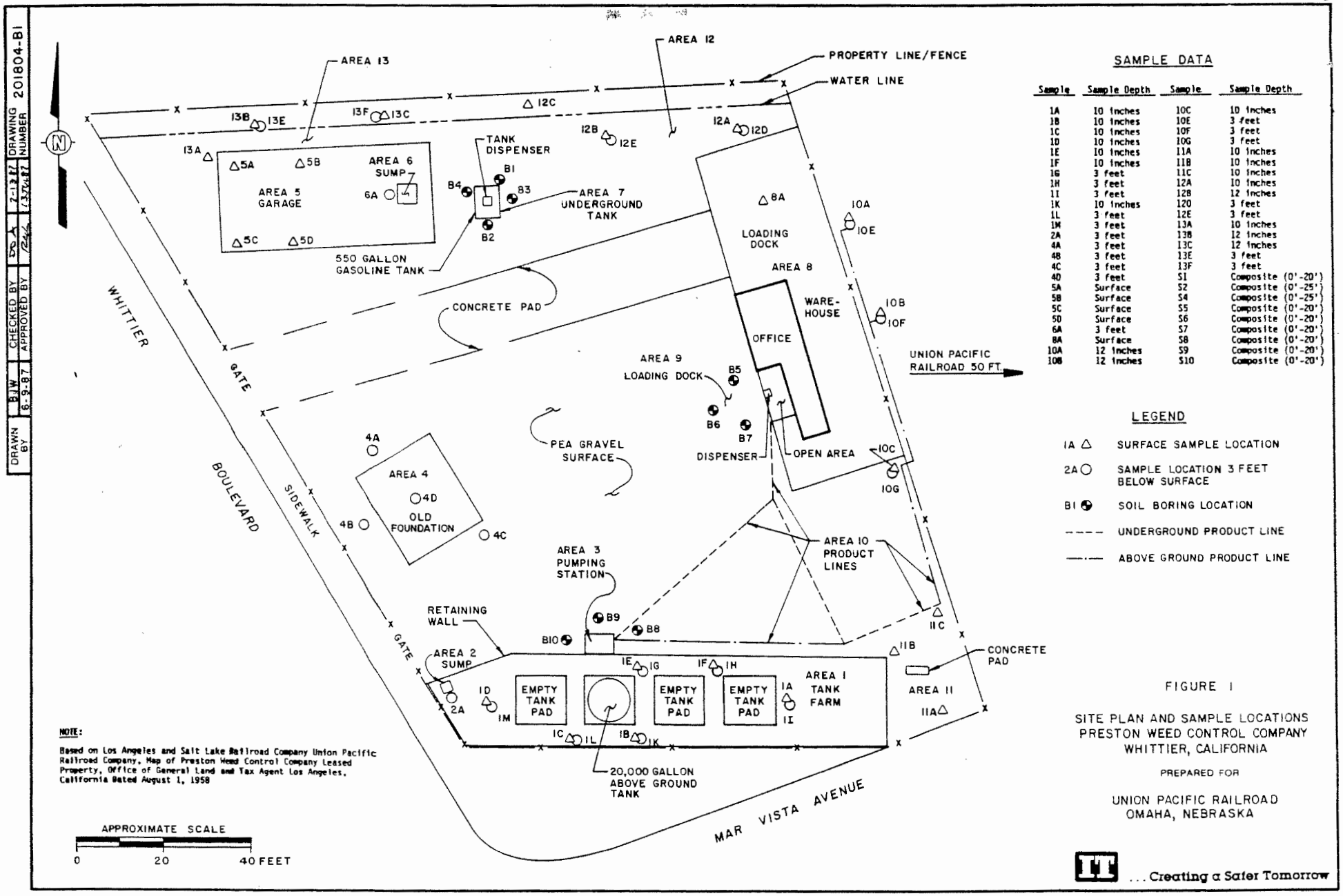
6. Further investigation to assess the vertical extent of contamination of TPH (Areas 6, 7 and 13), chlordane (Area 11), and 4-4" DDT (Areas 8 and 9).

After tank removal and removal of the heavily contaminated soils, samples will be collected to: (1) determine that the site has been adequately cleaned, or (2) establish that additional assessment and remediation will be required.

Respectfully submitted,
IT CORPORATION

John G. Fiske, P.E.
for
Richard C. Kent, R.G.
Project Manager

Kevin B. Aardahl
Project Geologist



SAMPLE DATA

Sample	Sample Depth	Sample	Sample Depth
1A	10 inches	10C	10 inches
1B	10 inches	10E	3 feet
1C	10 inches	10F	3 feet
1D	10 inches	10G	3 feet
1E	10 inches	11A	10 inches
1F	10 inches	11B	10 inches
1G	3 feet	11C	10 inches
1H	3 feet	12A	10 inches
1I	3 feet	12B	12 inches
1K	10 inches	12D	3 feet
1L	3 feet	12E	3 feet
1M	3 feet	13A	10 inches
2A	3 feet	13B	12 inches
4A	3 feet	13C	12 inches
4B	3 feet	13E	3 feet
4C	3 feet	13F	3 feet
4D	3 feet	S1	Composite (0'-20')
5A	Surface	S2	Composite (0'-25')
5B	Surface	S4	Composite (0'-25')
5C	Surface	S5	Composite (0'-20')
5D	Surface	S6	Composite (0'-20')
6A	3 feet	S7	Composite (0'-20')
8A	Surface	S8	Composite (0'-20')
10A	12 inches	S9	Composite (0'-20')
10B	12 inches	S10	Composite (0'-20')

LEGEND

- 1A △ SURFACE SAMPLE LOCATION
- 2A ○ SAMPLE LOCATION 3 FEET BELOW SURFACE
- B1 ⊕ SOIL BORING LOCATION
- ---- UNDERGROUND PRODUCT LINE
- —·— ABOVE GROUND PRODUCT LINE

NOTE:

Based on Los Angeles and Salt Lake Railroad Company Union Pacific Railroad Company, Map of Preston Weed Control Company Leased Property, Office of General Land and Tax Agent Los Angeles, California Dated August 1, 1958

FIGURE 1

SITE PLAN AND SAMPLE LOCATIONS
PRESTON WEED CONTROL COMPANY
WHITTIER, CALIFORNIA

PREPARED FOR

UNION PACIFIC RAILROAD
OMAHA, NEBRASKA

IT ... Creating a Safer Tomorrow

DRAWN BY: BJW 6-9-87
CHECKED BY: DSA 7-13-87
APPROVED BY: [illegible]
DRAWING NUMBER: 201804-B1

APPENDIX A
CHAIN-OF-CUSTODY RECORDS

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. _____

C/C Control No. 12[illegible]

PROJECT NAME/NUMBER Rocky Mountain Energy 201804

LAB DESTINATION IT Analytical, Cerritos CA

SAMPLE TEAM MEMBERS Arvonne Eloskof

CARRIER/WAYBILL NO. _____

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No
S1	Boring B2 Area 7, composite from 5', 10', 15' 20'' below grade	5-19-87	Silty Clay Soil	500 mL glass jar.		
S2	Boring B3 Area 7, composite from 5', 10' 15' 20' below surf.	5-19-87	Silty Clay Soil	500 mL glass jar		
S3	Boring B4 Area 7, composite from 5', 10', 15' 20 below surf.	5-20-87	Silty Clay Soil	500 mL glass jar		
S5	Boring B5 Area 9, composite from 5', 10' 15' 20 below surf.	5-20-87	Silty Clay Soil	500 mL glass jar		
S6	Boring B6 Area 9 composite from 5', 10', 15' 20' below surf.	5-19-87	Silty Clay Soil	500 mL glass jar		
S7	Boring B7 Area 9 composite from 5', 10', 15' 20' below surf.	5-20-87	Silty Clay Soil	500 mL glass jar		
S8	Boring B8, Area 3 composite from 5', 10', 15' 20' below surf.	5-20-87	Silty Clay Soil	500 mL glass jar		
S9	Boring B9, Area 3, composite from 5', 10' 15', 20' below surf.	5-19-87	Silty clay Soil	120z brass Tube		
S10	Boring B10 Area 3, composite from 5.5, 15.5-20.0	5-20-87	Silty Clay Soil	500 mL glass jar		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Paul Arana - IT 5/21/87

   Received By: Patrick Cullen - IT 5/21/87

2. Relinquished By: _____

   Received By: _____

3. Relinquished By: _____

   Received by: _____

4. Relinquished By: _____

   Received By: _____

WHITE - To accompany samples
YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 023807
C/C Control No _____

PROJECT NAME: Rocky Mountain Energy
PROJECT NUMBER: 201804
PROJECT MANAGER: Rick Kent
BILL TO: IT Wilmington

PURCHASE ORDER NO. _____

DATE SAMPLES SHIPPED: 5-21-87
LAB DESTINATION: IT Analytical Services
LABORATORY CONTACT: Steve Jones
SEND LAB REPORT TO: Rick Kent
17461 Derian Ave
Irvine, Ca 92714
DATE REPORT REQUIRED: 5-28-87
PROJECT CONTACT: David Aronne
PROJECT CONTACT PHONE NO. 714-261-6441

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
S1	Silty Clay Soil	500mL glass jar	NONE	TPH by EPA 418.1, Total Lead	
S2				" "	
S4				" "	
S5				TPH by 8015, PNA by 8100 pesticides by 8080.	
S6				" "	"
S7				" "	"
S8				TPH by 8015, PNA 8100	
S9		1202 brass Tube		" "	
S10		500mL glass jar		" "	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager)

Normal ✓ Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By Patrick Cullen Date/Time 5/21/87 11:00

WHITE - Original, to accompany samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 028896

C/C Control No. 41767

PROJECT NAME/NUMBER RMAE - WHITTIER

LAB DESTINATION IT ANALYTICAL LAB - CERRITOS

SAMPLE TEAM MEMBERS

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1A	AREA 1 EAST OF TANK PADS	5-19-87	SOIL	500 ML Jar		
1B	AREA 1 SOUTH OF EXISTING TANK					
1C	AREA 1 SOUTH OF EXISTING TANK					
1D	AREA 1 WEST OF TANK PADS					
1E	AREA 1 NORTH EAST OF EXISTING TANK					
1F	AREA 1 NORTH EAST OF 2ND PAD					

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: David Amme 5/21/87

   Received By: Patrick Cullen 5/21/87 11:00

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 028896
C/C Control No. 41767

PROJECT NAME: RMC - WHITTIER
PROJECT NUMBER: 201804
PROJECT MANAGER: RICK KENT
BILL TO:

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED:
LAB DESTINATION: IT ANALYTICAL LAB CERRITOS
LABORATORY CONTACT: STEVE JONES.
SEND LAB REPORT TO: RICK KENT
17461 DERIAN AVENUE
IRVINE, CA 92714
DATE REPORT REQUIRED: ASAP
PROJECT CONTACT: ARONNE / GLOSKOF
PROJECT CONTACT PHONE NO.: 714 - 261 - 6441

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1A	Soil	500 ML JAR	NONE	TPH (8015), PNA (8100)	COMPOSITE SAMPLES
1B				PESTICIDES/PCB's (8080)	1A, 1B, 1C, 1D, 1E
1C					& 1F INTO ONE
1D					SAMPLE.
1E					
1F					

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager)

Normal ✓ Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By Patrick Cullen Date/Time 5/1/91 11:00

...samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 028895

C/C Control No. 10629

PROJECT NAME/NUMBER RME - WHITTIER

LAB DESTINATION IT ANALYTICAL LAB - CERRITOS

SAMPLE TEAM MEMBERS ELDRUP / ARCHULETA

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
1G	AREA 1 - N.E OF EXISTING TANK	5-20-87	SOIL	500ML		
1H	AREA 1 - E. OF EXISTING TANK	5-20-87	SOIL	500ML		
1I	AREA 1 - EAST OF TANK PADS					
1K	AREA 1 - SOUTH E. OF EXISTING TANK					
1L	AREA 1 - SOUTH W. OF EXISTING TANK					
1M	AREA - WEST OF TANK PADS					
	N.B SAMPLES 1G → 1M ARE 3" B.G.					
2A	WEST OF TANK F. SUMP . 3" B.G.					

Special Instructions: COMPOSITE SAMPLES 1G, 1H, 1I, 1K, 1M & 1L INTO ONE SAMPLE & RUN REQUESTED ANALYSIS

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: David Archuleta 5/21/87

   Received By: Patrick Culbertson 5/21/87 11:00

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 028895
C/C Control No. 40629

PROJECT NAME: RME - WHITTIER
PROJECT NUMBER: 201804
PROJECT MANAGER: RICK KENT
BILL TO: IT Wilmington

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED:
LAB DESTINATION: IT ANALYTICAL LAB - CERRITOS
LABORATORY CONTACT: STEPHEN JONES
SEND LAB REPORT TO: RICK KENT - MGR.
17461 DERIAN AVE.
IRVINE, CA 92714
DATE REPORT REQUIRED: ASAP
PROJECT CONTACT: ELOSKOF / ARONNE
PROJECT CONTACT PHONE NO.: 714-261-6441

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
1G	SOIL	500 ML JAR	NONE	TPH (8015), PNA (8100)	COMPOSITE SAMPLES
1H	↓	↓	↓	PESTICIDES & PCB's (8080)	1G, 1H, 1I, 1K, 1L
1I					& 1M INTO ONE
1K					SAMPLE & RUN REQUESTED
1L					ANALYSIS
1M					
2A	SOIL	500 ML JAR	NONE	TPH (8015), PNA (8100)	
				& CHLORINATED SOLVENTS (8120)	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal ✓ Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By Patricia Cull Date/Time 5/6/87 1100

WHITE - Original, to accompany samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 41768

C/C Control No. ~~11611~~

PROJECT NAME/NUMBER RME-WHITTIER / 20184

LAB DESTINATION

SAMPLE TEAM MEMBERS Arlene Elosiak

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
4A	3' feet below surface at old foundation area	5-20-87	~~Sample~~ Silty Clay Soil	500ml glass jar	Composite into one sample	
4B						
4C						
4D						
5A	garage area				Composite into one sample	
5B						
5C						
5D						

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Dan Crane 5-21-87

   Received By: Patrick Cudd 5/21/87

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 028897
C/C Control No. 41768

PROJECT NAME: RME - WHITTIER
PROJECT NUMBER: 201804
PROJECT MANAGER: RICK KENT
BILL TO: IT WILMINGTON

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED:
LAB DESTINATION: IT ANALYTICAL LAB - CERRITOS
LABORATORY CONTACT: STEVE JONES
SEND LAB REPORT TO: RICK KENT
17461 DERIAN AVENUE
IRVINE, CA 92714
DATE REPORT REQUIRED: ASAP
PROJECT CONTACT: ELOSLOF / ARONNE
PROJECT CONTACT PHONE NO.: 714-261-6401

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
4A	SOIL	500 ML JAR	NONE	TPH (8015), DNA (8100)	COMPOSITE SAMPLES
4B	↓	↓	↓	PCB & PEST. (8080) &	4A, 4B, 4C & 4D
4C				CHLORINATED SOLVENTS (8120)	INTO ONE SAMPLE:
4D					
5A	SOIL	500 ML JAR	NONE	TPH (418.1)	COMPOSITE SAMPLES
5B	↓	↓	↓		5A, 5B, 5C & 5D
5C					INTO ONE SAMPLE
5D					

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By Patrick Cull Date/Time 5/24/87 11:00

WHITE - Original, to accompany samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 05227

C/C Control No. 026902

PROJECT NAME/NUMBER Rocky Mountain Energy (RME) 201804 LAB DESTINATION Cerritos IT Analytical

SAMPLE TEAM MEMBERS Arianne, Elaskat CARRIER/WAYBILL NO. _____

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
5A	Garage located at north-west corner of site	5-18-87	soil	glass jar		
5B	"	"	"	" "		
5C	"	"	"	" "		
5D	"	"	"	" "		
11A	southeast corner of site	"	"	" "		
11B	" " "	"	"	" "		
11C	" " "	"	"	" "		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: Arianne 5/21/87 11:00

   Received By: Patrick Cella 5/22/87 11:00

2. Relinquished By: _____

   Received By: _____

3. Relinquished By: _____

   Received by: _____

4. Relinquished By: _____

   Received By: _____

WHITE - To accompany samples

YELLOW - Field copy

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 032271
C/C Control No. 07690?

PROJECT NAME: Rocky Mountain Energy (RME)
PROJECT NUMBER: 201804
PROJECT MANAGER: Richard Kent
BILL TO: IT Wilmington

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED:
LAB DESTINATION: IT Analytical Cerritos, CA
LABORATORY CONTACT: Steve Jones
SEND LAB REPORT TO: Richard Kent
17461 Derian Ave
Irvine Ca 92714
DATE REPORT REQUIRED: ASAP
PROJECT CONTACT: David Aronne
PROJECT CONTACT PHONE NO.: 714-261-6441

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
5A	Soil		NONE	Total Petroleum hydro-	Please composite
5B	"			carbons by E.P.A method	samples 5A thru
5C	"			418.1	5D, run one
5D	"				analyses only.
11A	"			~~TPH~~,	
11B	"			↓	
11C	"				

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager)
Normal X Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)
Nonhazard _____ Flammable _____ Skin Irritant X Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)
Return to Client _____ Disposal by Lab X

FOR LAB USE ONLY
Received By Patrick Cullen Date/Time _____

WHITE - Original, to accompany samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 028893

C/C Control No. 41769

PROJECT NAME/NUMBER RME - WHITTIER

LAB DESTINATION IT ANALYTICAL LAB - CERRITOS

SAMPLE TEAM MEMBERS

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
6A	1' W of Garage Sump, 3' B.G.	5-20-87	Soil	500 ML JAR		
8A	Beneath Warehouse, 3 Sample	5-20-87	Soil	500 ML JAR		
10A	Behind W/H. N. Stairup 10" BG	5-20-87	Soil	500 ML JAR		
10B	Behind W/H S Stairup 10" BG	↓	↓	↓		
10C	South W/H. 10" BG					
10E	Behind W/H - N. Stairup 3' BG					
10F	Behind W/H - S. Stair-up 3' BG					
10G.	South W/H - 3' BG					

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: [signature] 5/21/87

Received By: Patrick Cullen 5/21/87 11:00

2. Relinquished By:

Received By:

3. Relinquished By:

Received by:

4. Relinquished By:

Received By:

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 028898
C/C Control No. 41769

PROJECT NAME: RME - WHITTIER
PROJECT NUMBER: 201804
PROJECT MANAGER: RICK KENT
BILL TO: IT WILMINGTON

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED:
LAB DESTINATION: IT ANALYTICAL LAB - CORRITOS
LABORATORY CONTACT: STEVE JONES
SEND LAB REPORT TO: RICK KENT
17461 DERIAN AVE
IRVINE, CA 92714
DATE REPORT REQUIRED: ASAP
PROJECT CONTACT: ELOSKOF / ARONNE
PROJECT CONTACT PHONE NO.: 714-261-6441

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
6A	SOIL	500 ML JAR	NONE	TPH (418.1), PCB & CHLORINATED SOLVENTS 8120	
8A	SOIL	500 ML JAR	NONE	PESTICIDE (8080), PNA (8100) & TPH (8015)	
10A	SOIL	500 ML JAR	NONE	TPH (8015), PNA (8100)	
10B				PESTICIDE (8080)	COMPOSITE 10A & 10E INTO 1 SAMPLE, 10B & 10F INTO ONE SAMPLE & 10G & 10C INTO ONE SAMPLE
10C					
10E					
10F					
10G					

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager)

Normal _____ Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By Patrick Cull Date/Time 5/21/87

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 428699

C/C Control No. 41770

PROJECT NAME/NUMBER RME – WHITTIER

LAB DESTINATION IT ANALYTICAL LAB – CERRITOS

SAMPLE TEAM MEMBERS

CARRIER/WAYBILL NO.

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No.
11A	WEST TO TANK PADS &	5-19-87	Soil	500 ML JAR		
11B	SOUTH TO WAREHOUSE.		↓	↓		
11C			↓	↓		
				↓		
12A	NORTH OF WAREHOUSE	5-19-87	Soil	↓		
12B	AND EAST OF	↓	↓	↓		
12C	GARAGE	↓	↓	↓		
12D		5-20-87	↓	↓		
12E		5-20-87	↓	↓		

Special Instructions:

Possible Sample Hazards:

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: David Aragon 5/21/87

   Received By: Patrick Cullen 5/21/87 1140

2. Relinquished By:

   Received By:

3. Relinquished By:

   Received by:

4. Relinquished By:

   Received By:

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 028899
C/C Control No. 41770

PROJECT NAME: RME - WHITTIER
PROJECT NUMBER: 201804
PROJECT MANAGER: RICK KENT
BILL TO: IT WILMINGTON

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED:
LAB DESTINATION: IT ANALYTICAL LAB - CERRITOS
LABORATORY CONTACT: STEVE JONES
SEND LAB REPORT TO: RICK KENT
17461 DERIAN
IRVINE, CA 92714
DATE REPORT REQUIRED: ASAP
PROJECT CONTACT: ELOSKOF / PRONKE
PROJECT CONTACT PHONE NO.: 714-261-6401

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
11A	Soil	500 ML JAR	NONE	PESTICIDE, BNA & CHC.	COMPOSITE 11A,
11B	↓	↓	↓		11B & 11C INTO ONE
11C	↓	↓	↓		SAMPLE.
12A	Soil	500 ML JAR	NONE	PESTICIDE, BNA & CHC.	
12B	↓	↓	↓	↓	
12C	↓	↓	↓	↓	
12D	↓	↓	↓	↓	
12E	↓	↓	↓	↓	

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager.)

Normal _____ Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By Patrick Cullen Date/Time 5/21/93 11:00

WHITE - Original to accompany samples

INTERNATIONAL TECHNOLOGY CORPORATION

CHAIN-OF-CUSTODY RECORD

R/A Control No. 028900

C/C Control No. 41771

PROJECT NAME/NUMBER RME - WHITTIER

LAB DESTINATION IT ANALYTICAL LAB - CERRITOS

SAMPLE TEAM MEMBERS _____

CARRIER/WAYBILL NO. _____

Sample Number	Sample Location and Description	Date and Time Collected	Sample Type	Container Type	Condition on Receipt (Name and Date)	Disposal Record No
13A	NORTH + WEST OF	5-19-87	SOIL	500 ML		
13B	GARAGE AREA	↓	↓	↓		
13C		↓	↓	↓		
13E		5-20-87	↓	↓		
13F		↓	↓	↓		

Special Instructions: _____

Possible Sample Hazards: _____

SIGNATURES: (Name, Company, Date and Time)

1. Relinquished By: David Arome 5/21/87

   Received By: Patrick Cullen 5/21/87 11:00

2. Relinquished By: _____

   Received By: _____

3. Relinquished By: _____

   Received by: _____

4. Relinquished By: _____

   Received By: _____

INTERNATIONAL TECHNOLOGY CORPORATION

REQUEST FOR ANALYSIS

R/A Control No. 028900
C/C Control No. 4171

PROJECT NAME: RME - WHITTIER
PROJECT NUMBER: 201804
PROJECT MANAGER: RICK KENT
BILL TO: IT WILMINGTON

PURCHASE ORDER NO.:

DATE SAMPLES SHIPPED:
LAB DESTINATION: IT ANALYTICAL LAB-CERRITOS
LABORATORY CONTACT: STEVE JONES
SEND LAB REPORT TO: RICK KENT
17461 DERIAN
IRVINE, CA 92714
DATE REPORT REQUIRED: ASAP
PROJECT CONTACT: ELOSKOF / ARONNE
PROJECT CONTACT PHONE NO.: 714-261-6491

Sample No.	Sample Type	Sample Volume	Preservative	Requested Testing Program	Special Instructions
13A	SOIL	500 ML JAR	NONE	PESTICIDES, BNA & CHC	COMPOSITE 13A, 13B, 13C, 13D & 13F INTO ONE SAMPLE
13B	↓	↓	↓		
13C					
13D					
13F					

TURNAROUND TIME REQUIRED: (Rush must be approved by the Project Manager)

Normal _____ Rush _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances)

Nonhazard _____ Flammable _____ Skin Irritant _____ Highly Toxic _____ Other _____ (Please Specify)

SAMPLE DISPOSAL (Please indicate disposition of sample following analysis. Lab will charge for packing, shipping, and disposal.)

Return to Client _____ Disposal by Lab _____

FOR LAB USE ONLY

Received By Patrick Cullen Date/Time 5/24/89 11:00

WHITE - Original, to accompany samples

APPENDIX B
LABORATORY CERTIFICATES OF ANALYSES

INTERNATIONAL TECHNOLOGY CORPORATION

IT Corporation
17461 Derian
Irvine, CA 92714

June 3, 1987

ATTN: Rick Kent

Following are the results of analyses on the samples described below.

Project Number: 201804, Rocky Mountain Energy, Whittier
Lab Numbers: S7-05-130-01 thru S7-05-130-14,
S7-05-140-01 thru S7-05-140-37
Number of Samples: 51 (composited to 22)
Sample Type: soil
Date Received: 5/22/87
Analyses Requested: Organochlorine Pesticides and Polychlorinated Biphenyls, Polynuclear Aromatics, Chlorinated Hydrocarbons, Low Boiling Hydrocarbons, Total Recoverable Petroleum Hydrocarbons by Infrared Spectroscopy

The method of analysis for organochlorine pesticides and PCBs in soil is adapted from the E.P.A.'s Methods 3550 and 8080. The sample is extracted with dichloromethane. The extract is evaporated, exchanged to hexane and cleaned-up through Florisil. The extract is analyzed by gas chromatography with an electron capture detector.

Additional clean-up was performed to remove excessive amounts of elemental sulfur and certain sulfur containing compounds.

The method of analysis for polynuclear aromatic hydrocarbons in soil is taken from E.P.A. Methods 3550 and 8100. The sample is extracted with repeated portions of methylene chloride using a horn-type sonicator. The extract is dried with sodium sulfate, evaporated and exchanged to hexane. Final detection is by gas chromatography using a flame ionization detector.

The method of analysis for chlorinated hydrocarbons in soil is taken from E.P.A. Methods 3550 and 8120. The sample is extracted with repeated portions of methylene chloride using a horn-type sonicator. The extract is dried with sodium sulfate, evaporated and exchanged to hexane. Final detection is by gas chromatography using an electron capture detector.

The method of analysis for low boiling hydrocarbons is taken from E.P.A. Methods 8015, 8020 and 5030. The samples are examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector as well as a photo-ioniozation detector.

The results for total low boiling hydrocarbons are calculated as gasoline and include benzene, toluene, ethyl benzene and xylenes.

The method of analysis for total recoverable petroleum hydrocarbons in soil is taken from E.P.A. Methods 3550 and 418.1. The sample is extracted with repeated portions of 1,1,2-trichlorotrifluoroethane using a horn-type sonicator. The extract is dried with sodium sulfate, treated with silica gel to remove polar compounds, and examined by infrared spectroscopy.

Sample Location	Sample Field Identification	IT Santa Clara Laboratory Number
Area 1 - Tank Farm	1A, 1C, 1D, 1E, 1F	S7-05-130-10 thru S7-05-130-14 (lab composite #1)
	1G, 1H, 1I, 1K, 1L, 1M	S7-05-140-14 thru S7-05-140-19 (lab composite #2)
Area 2 - Tank Farm Sump	2A	S7-05-140-20
Area 3 - Pump Station	S8 (Boring 8)-composite of 5', 10', 15' and 20'	S7-05-130-07
	S9 (Boring 9)-composite of 5', 10', 15' and 20'	S7-05-130-08
	S10 (Boring 10)-composite of 5.5'- 15.5' and 20'	S7-05-130-09
Area 4 - Old Building Foundation	4A, 4B, 4C, 4D	S7-05-140-28 thru S7-05-140-31 (lab composite #3)
Area 5 - Garage	5A, 5B, 5C, 5D	S7-05-140-21 thru S7-05-140-24 (lab composite #4)
Area 6 - Garage Sump	6A	S7-05-140-06
Area 7 - Underground Storage Tank	S1 (Boring 2)-composite of 5', 10', 15' and 20'	S7-05-130-01
	S2 (Boring 3)-composite of 5', 10', 15' and 20'	S7-05-130-02
	S4 (Boring 4)-composite of 5', 10', 15' and 20'	S7-05-130-03
Area 8 - Office/ Warehouse	8A	S7-05-140-07

Sample Location	Sample Field Identification	IT Santa Clara Laboratory Number
Area 9 - Loading Dock	S5 (Boring 5)-composite of 5', 10', 15' and 20'	S7-05-130-04
	S6 (Boring 6)-composite of 5', 10', 15' and 20'	S7-05-130-05
	S7 (Boring 7)-composite of 5', 10', 15' and 20'	S7-05-130-06
Area 10 - Product Lines	10A, 10E	S7-05-140-08 and S7-05-140-11 (lab composite #5)
	10B, 10F	S7-05-140-09 and S7-05-140-12 (lab composite #6)
	10C, 10G	S7-05-140-10 and S7-05-140-13 (lab composite #7)
Area 11 - Southeast Corner of Property	11A, 11B, 11C	S7-05-140-25 thru S7-05-140-27 (lab composite #8)
Area 12 - Northeast Corner of Property	12A, 12B, 12C, 12D, 12E	S7-05-140-32 thru S7-05-140-36 (lab composite #9)
Area 13 - Northwest Corner of Property	13A, 13B, 13C, 13D, 13E, 13F	S7-05-140-01 thru S7-05-140-05 and S7-05-140-37 (lab composite #10)

Fred Rouse

Fred Rouse

FR/ksr

52 Pages Following - Tables of Results

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Numbers: S7-Ø5-13Ø-1Ø, S7-Ø5-13Ø-11, S7-Ø5-13Ø-12,
S7-Ø5-13Ø-13, S7-Ø5-13Ø-14 (lab composite #1)
Sample Identification: Proj. 2Ø18Ø4, Rocky Mountain Energy,
Area 1-1A,
Area 1-1C,
Area 1-1D,
Area 1-1E,
Area 1-1F

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	Ø.Ø5	.....Not Applicable....	
Toluene	nd	Ø.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	Ø.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-130-10, S7-05-130-11, S7-05-130-12, S7-05-130-13, S7-05-130-14 (lab composite #1)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 1, 1A, Area 1, 1C, Area 1, 1D, Area 1, 1E, Area 1, 1F
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.02
Dieldrin	None	0.02
DDE	0.01	0.01
Endrin	None	0.02
Endosulfan II	None	0.02
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.1
4,4'-DDT	0.03	0.02
Chlordane	0.09	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Numbers:	S7-05-130-10, S7-05-130-11, S7-05-130-12, S7-05-130-13, S7-05-130-14 (lab composite #1)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 1, 1A, Area 1C, Area 1, 1-D, Area 1, 1E, Area 1, 1F
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	2.
benzo(a)anthracene	None	2.
benzo(a)pyrene	None	2.
benzo(b)fluoranthene	None	2.
benzo(ghi)perylene	None	0.5
benzo(k)fluoranthene	None	2.
chrysene	None	2.
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	2.
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	2.
pyrene	None	2.

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Numbers: S7-Ø5-14Ø-14, S7-Ø5-14Ø-15, S7-Ø5-14Ø-16,
S7-Ø5-14Ø-17, S7-Ø5-14Ø-18, S7-Ø5-14Ø-19
(lab composite #2)

Sample Identification: Proj. 2Ø18Ø4, Rocky Mountain Energy,
Area 1-3', B.G. 1G,
Area 1-3', B.G. 1H,
Area 1-3', B.G. 1I,
Area 1-3', B.G. 1K,
Area 1-3', B.G. 1L,
Area 1-3', B.G. 1M

nd = none detected

Results

	Parts per Million - as received			
Total Petroleum Hydrocarbons	Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	Ø.Ø5	.....Not Applicable....	
Toluene	nd	Ø.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	Ø.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-140-14, S7-05-140-15, S7-05-140-16, S7-05-140-17, S7-05-140-18, S7-05-140-19 (lab composite #2)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 1, 3', B.G., 1G, Area 1, 3', B.G., 1H, Area 1, 3', B.G., 1I, Area 1, 3', B.G., 1K, Area 1, 3', B.G., 1L, Area 1, 3', B.G., 1M
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.01
Dieldrin	None	0.01
DDE	None	0.01
Endrin	None	0.01
Endosulfan II	None	0.01
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.05
4,4'-DDT	0.03	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Numbers:	S7-05-140-14, S7-05-140-15, S7-05-140-16, S7-05-140-17, S7-05-140-18, S7-05-140-19 (lab composite #2)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 1, 3', B.G., 1G, Area 1, 3', B.G., 1H, Area 1, 3', B.G., 1I, Area 1, 3', B.G., 1K, Area 1, 3', B.G., 1L, Area 1, 3', B.G., 1M
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.2
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-Ø5-14Ø-2Ø
Sample Identification: Proj. 2Ø18Ø4, Rocky Mountain Energy, Tank farm sump - 3', B.G., 2A

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	Ø.Ø5	.....Not Applicable....	
Toluene	nd	Ø.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	Ø.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Number:	S7-05-140-20
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Tank farm sump, 3', B.G., 2A
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	2.
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	2.
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	2.
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

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ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8120 Chlorinated Hydrocarbons in Soil

Lab Number:	S7-05-140-20
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Tank farm sump, 3', B.G., 2A
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
1,2-dichlorobenzene	None	0.76
1,3-dichlorobenzene	None	0.80
1,4-dichlorobenzene	None	0.90
1,2,4-trichlorobenzene	None	0.034
Hexachloroethane	None	0.020
Hexachloro-1,3-butadiene	None	0.23
Hexachlorocyclopentadiene	None	0.27
Hexachlorobenzene	None	0.034

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-05-130-07
Sample Identification: Proj. 201804, Rocky Mountain Energy, Composite 5', 10', 15' and 20', S8

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	0.05	.....Not Applicable....	
Toluene	nd	0.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	0.4	.....Not Applicable....	

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ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Number:	S7-05-130-07
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Composite 5', 10', 15', 20', S8
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.2
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-Ø5-13Ø-Ø8
Sample Identification: Proj. 2Ø18Ø4, Rocky Mountain Energy, Composite 5', 1Ø', 15' and 2Ø', S9

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	Ø.Ø5	.....Not Applicable....	
Toluene	nd	Ø.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	Ø.4	.....Not Applicable....	

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ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Number:	S7-05-130-08
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Composite 5', 10', 15', 20', S9
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.2
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-05-130-09
Sample Identification: Proj. 201804, Rocky Mountain Energy, Composite 5.5'- 15.5', 20', S10

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	0.05	.....Not Applicable....	
Toluene	nd	0.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	0.4	.....Not Applicable....	

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ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Number:	S7-05-130-09
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Composite 5.5'-15.5', 20', S10
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.4
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.4
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

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ATTN: Rick Kent

June 3, 1987

Lab Numbers: S7-Ø5-14Ø-28, S7-Ø5-14Ø-29,
S7-Ø5-14Ø-3Ø, S7-Ø5-14Ø-31 (lab composite #3)
Sample Identification: Proj. 2Ø18Ø4, Rocky Mountain Energy,
Area 4, 3', B.G., 4A,
Area 4, 3', B.G., 4B,
Area 4, 3', B.G., 4C,
Area 4, 3', B.G., 4D

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	Ø.Ø5	.....Not Applicable....	
Toluene	nd	Ø.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	Ø.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-140-28, S7-05-140-29, S7-05-140-30, S7-05-140-31 (lab composite #3)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 4, 3', B.G., 4A, Area 4, 3', B.G., 4B, Area 4, 3', B.G., 4C, Area 4, 3', B.G., 4D
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.01
Dieldrin	None	0.01
DDE	None	0.01
Endrin	None	0.01
Endosulfan II	None	0.01
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.05
4,4'-DDT	None	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Numbers:	S7-05-140-28, S7-05-140-29, S7-05-130-30, S7-05-140-31 (lab composite #3)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 4, 3', B.G., 4A, Area 4, 3', B.G., 4B, Area 4, 3', B.G., 4C, Area 4, 3', B.G., 4D
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.2
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.5
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8120 Chlorinated Hydrocarbons in Soil

Lab Numbers:	S7-05-140-28, S7-05-140-29, S7-05-140-30, S7-05-140-31 (lab composition # 3)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 4, 3', B.G., 4A, Area 4, 3', B.G., 4B, Area 4, 3', B.G., 4C, Area 4, 3', B.G., 4D
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
1,2-dichlorobenzene	None	0.76
1,3-dichlorobenzene	None	0.80
1,4-dichlorobenzene	None	0.90
1,2,4-trichlorobenzene	None	0.034
Hexachloroethane	None	0.020
Hexachloro-1,3-butadiene	None	0.23
Hexachlorocyclopentadiene	None	0.27
Hexachlorobenzene	None	0.034

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Numbers: S7-05-140-21, S7-05-140-22,
S7-05-140-23, S7-05-140-24 (lab composite #4)
Sample Identification: Proj. 201804, Rocky Mountain Energy,
Area 5, Garage dirt floor, 5A,
Area 5, Garage dirt floor, 5B,
Area 5, Garage dirt floor, 5C,
Area 5, Garage dirt floor, 5D

Results

	Parts per Million - as received			
	Detected	Detection Limit	Identity	Calculated as
Total Recoverable Petroleum Hydrocarbons by Infrared Spectroscopy	4,400.	—	—	—

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-05-140-06

Sample Identification: Proj. 201804, Rocky Mountain Energy, Area 6 below sump, 3' - 4', 6A

Results

	Parts per Million - as received			
	Detected	Detection Limit	Identity	Calculated as
Total Recoverable Petroleum Hydrocarbons by Infrared Spectroscopy	480.	—	—	—

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Number:	S7-05-140-06
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 6, below sump, 3-4', 6A
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.01
Dieldrin	None	0.01
DDE	None	0.01
Endrin	None	0.01
Endosulfan II	None	0.01
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.05
4,4'-DDT	None	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8120 Chlorinated Hydrocarbons in Soil

Lab Number:	S7-05-140-06
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 6, below sump, 3-4', 6A
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
1,2-dichlorobenzene	None	0.76
1,3-dichlorobenzene	None	0.80
1,4-dichlorobenzene	None	0.90
1,2,4-trichlorobenzene	None	0.034
Hexachloroethane	None	0.020
Hexachloro-1,3-butadiene	None	0.23
Hexachlorocyclopentadiene	None	0.27
Hexachlorobenzene	None	0.034

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-05-130-01

Sample Identification: Proj. 201804, Rocky Mountain Energy, Composite 5', 10', 15', 20', S1

Results

	Parts per Million - as received			
	Detected	Detection Limit	Identity	Calculated as
Total Recoverable Petroleum Hydrocarbons by Infrared Spectroscopy	1,000.	—	—	—

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-05-130-02

Sample Identification: Proj. 201804, Rocky Mountain Energy, Composite 5', 10', 15', 20', S2

Results

	Parts per Million - as received			
	Detected	Detection Limit	Identity	Calculated as
Total Recoverable Petroleum Hydrocarbons by Infrared Spectroscopy	100.	—	—	—

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ATTN: Rick Kent

June 3, 1987
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Lab Number: S7-05-130-03

Sample Identification: Proj. 201804, Rocky Mountain Energy,
Composite 5', 10', 15', 20', S4

Results

	Parts per Million - as received			
	Detected	Detection Limit	Identity	Calculated as
Total Recoverable Petroleum Hydrocarbons by Infrared Spectroscopy	110.	—	—	—

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Number:	S7-05-140-07
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Beneath W.H., Area 8, 8A
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.5
b-BHC	None	1.0
d-BHC	None	0.5
g-BHC	None	0.5
Heptachlor	None	0.5
Aldrin	None	0.5
Heptachlor epoxide	None	0.5
Endosulfan I	None	0.2
Dieldrin	None	0.2
DDE	0.24	0.2
Endrin	None	0.2
Endosulfan II	None	0.2
4,4'-DDD	None	1.0
Endrin aldehyde	None	0.5
Endosulfan sulfate	None	1.
4,4'-DDT	2.0	1.
Chlordane	0.8	0.2
Toxaphene	None	20.
PCB 1016	None	5.
PCB 1221	None	10.
PCB 1232	None	5.
PCB 1242	None	5.
PCB 1248	None	5.
PCB 1254	None	10.
PCB 1260	None	10.

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-Ø5-13Ø-Ø4

Sample Identification: Proj. 2Ø18Ø4, Rocky Mountain Energy, Composite 5', 1Ø', 15', 2Ø', S5

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	Ø.Ø5	.....Not Applicable....	
Toluene	nd	Ø.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	Ø.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Number:	S7-05-130-04
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Composite 5', 10', 15', 20', S5
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.02
Dieldrin	None	0.02
DDE	None	0.01
Endrin	None	0.02
Endosulfan II	None	0.02
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.1
4,4'-DDT	None	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Number:	S7-05-130-04
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Composite, 5', 10', 15', 20', S5
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.2
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-05-130-05

Sample Identification: Proj. 201804, Rocky Mountain Energy, Composite 5', 10', 15', 20', S6

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	0.05	.....Not Applicable....	
Toluene	nd	0.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	0.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Number:	S7-05-130-05
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Composite 5', 10', 15', 20', S6
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.02
Dieldrin	None	0.02
DDE	None	0.01
Endrin	None	0.02
Endosulfan II	None	0.02
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.1
4,4'-DDT	None	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Number:	S7-05-130-05
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Composite, 5', 10', 15', 20', S6
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.2
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Number: S7-05-130-06

Sample Identification: Proj. 201804, Rocky Mountain Energy, Composite 5', 10', 15', 20', S7

nd = none detected

Total Petroleum Hydrocarbons	Results (Parts per Million - as received) Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	0.05	.....Not Applicable....	
Toluene	nd	0.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	0.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Number:	S7-05-130-06
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Composite 5', 10', 15', 20', S7
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.02
Dieldrin	None	0.02
DDE	None	0.01
Endrin	None	0.02
Endosulfan II	None	0.02
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.1
4,4'-DDT	None	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Number:	S7-05-130-06
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Composite, 5', 10', 15', 20', S7
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.2
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Numbers: S7-Ø5-14Ø-Ø8 and S7-Ø5-14Ø-11
(lab composite #5)

Sample Identification: Proj. 2Ø18Ø4, Rocky Mountain Energy,
Area 1Ø, 1ØA, behind w/h nor,
S 1ØE, 3', B.G.

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	Ø.Ø5	.....Not Applicable....	
Toluene	nd	Ø.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	Ø.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-140-08 and S7-05-140-11 (lab composite #5)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 10, 10A, Behind w/h nor, S 10E, 3', B.G.
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.02
Dieldrin	None	0.02
DDE	None	0.01
Endrin	None	0.02
Endosulfan II	None	0.02
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.1
4,4'-DDT	0.02	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Numbers:	S7-05-140-08, S7-05-140-11
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 10, 10A, behind w/h nor, S 10E, 3', B.G.
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	1.
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987
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Lab Numbers: S7-05-140-09 and S7-05-140-12
(lab composite #6)

Sample Identification: Proj. 201804, Rocky Mountain Energy, Area 10, 10B, (label ripped), S 10F, 3', B.G.

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	0.05	.....Not Applicable....	
Toluene	nd	0.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	0.4	.....Not Applicable....	

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ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-140-09 and S7-05-140-12 (lab composite #6)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 10, 10B, (label ripped), S 10F, 3', B.G.
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.02
Dieldrin	None	0.02
DDE	None	0.01
Endrin	None	0.02
Endosulfan II	None	0.02
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.1
4,4'-DDT	None	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Numbers:	S7-05-140-09, S7-05-140-12
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 10, 10B, (label ripped), S 10F, 3', B.G.
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.2
benzo(b)fluoranthene	None	0.2
benzo(ghi)perylene	None	0.4
benzo(k)fluoranthene	None	0.2
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Numbers: S7-Ø5-14Ø-1Ø and S7-Ø5-14Ø-13
(lab composite #7)

Sample Identification: Proj. 2Ø18Ø4, Rocky Mountain Energy,
Area 1Ø, 1ØC, (1Ø', B.G.),
1ØG, 3', B.G.

nd = none detected

Results

Total Petroleum Hydrocarbons	Parts per Million - as received: Detected	Detection Limit	Identity	Calculated as
Low Boiling Hydrocarbons (includes benzene, toluene, ethyl benzene and xylenes)	nd	5.	—	—
Benzene	nd	Ø.Ø5	.....Not Applicable....	
Toluene	nd	Ø.1	.....Not Applicable....	
Xylenes and ethyl benzene	nd	Ø.4	.....Not Applicable....	

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-140-10 and S7-05-140-13 (lab composite #7)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 10, 10C, (10", B.G.), S 10G, 3', B.G.
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.02
Dieldrin	None	0.02
DDE	0.01	0.01
Endrin	None	0.02
Endosulfan II	None	0.02
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.1
4,4'-DDT	0.05	0.02
Chlordane	0.23	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

Report of Analysis - Method 8100 Polynuclear Aromatic Hydrocarbons in Soil

Lab Numbers:	S7-05-140-10, S7-05-140-13
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 10, 10C, (10", B.G.), S 10G, 3', B.G.
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
acenaphthene	None	0.2
acenaphthylene	None	0.2
anthracene	None	0.2
benzo(a)anthracene	None	0.2
benzo(a)pyrene	None	0.4
benzo(b)fluoranthene	None	0.4
benzo(ghi)perylene	None	1.
benzo(k)fluoranthene	None	0.4
chrysene	None	0.2
dibenzo(a,h)anthracene	None	0.2
fluoranthene	None	0.2
indeno(1,2,3-cd)pyrene	None	0.2
naphthalene	None	0.2
phenanthrene	None	0.2
pyrene	None	0.2

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-140-25, S7-05-140-26, S7-05-140-27 (lab composite #8)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 11, 11-A, Area 11, 11-B, Area 11, 11-C
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.05
b-BHC	None	0.1
d-BHC	None	0.05
g-BHC	None	0.05
Heptachlor	None	0.05
Aldrin	None	0.05
Heptachlor epoxide	None	0.05
Endosulfan I	None	0.05
Dieldrin	0.05	0.05
DDE	None	0.05
Endrin	None	0.05
Endosulfan II	None	0.1
4,4'-DDD	None	0.1
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.05
4,4'-DDT	None	0.4
Chlordane	2.9	0.25
Toxaphene	None	2.0
PCB 1016	None	0.5
PCB 1221	None	1.0
PCB 1232	None	0.5
PCB 1242	None	0.5
PCB 1248	None	0.5
PCB 1254	None	1.0
PCB 1260	None	0.5

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8120 Chlorinated Hydrocarbons in Soil

Lab Number:	S7-05-140-25, S7-05-140-26, S7-05-140-27 (lab composite #8)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 11, 11A, Area 11, 11B, Area 11, 11C
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
1,2-dichlorobenzene	None	0.76
1,3-dichlorobenzene	None	1.4
1,4-dichlorobenzene	None	2.4
1,2,4-trichlorobenzene	None	0.18
Hexachloroethane	None	0.1
Hexachloro-1,3-butadiene	None	0.23
Hexachlorocyclopentadiene	None	0.27
Hexachlorobenzene	None	0.034

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-140-32, S7-05-140-33, S7-05-140-34, S7-05-140-35, S7-05-140-36 (lab composite #9)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 12, N. of U/G tank, 12-A, Area 12, 12-B, Area 12, 12-C, Area 12, S 12-D, Area 12, S-12E, 2.1', B.G.
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.01
Dieldrin	None	0.01
DDE	None	0.01
Endrin	None	0.01
Endosulfan II	None	0.01
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.05
4,4'-DDT	0.02	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

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ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8120 Chlorinated Hydrocarbons in Soil

Lab Number:	S7-05-140-32, S7-05-140-33, S7-05-140-34, S7-05-140-35, S7-05-140-36 (lab composite #9)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 12, N. of U/G tank, 12-A, Area 12, 12-B, Area 12, 12-C, Area 12, S-12D Area 12, S-12E, 2.1', B.G.
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
1,2-dichlorobenzene	None	0.76
1,3-dichlorobenzene	None	1.2
1,4-dichlorobenzene	None	2.1
1,2,4-trichlorobenzene	None	0.15
Hexachloroethane	None	0.084
Hexachloro-1,3-butadiene	None	0.23
Hexachlorocyclopentadiene	None	0.27
Hexachlorobenzene	None	0.034

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Lab Numbers: S7-05-140-01, S7-05-140-02, S7-05-140-03,
S7-05-140-04, S7-05-140-05, S7-05-140-37
(lab composite #10)

Sample Identification: Proj. 201804, Rocky Mountain Energy,
Area 13, N&E of Garage, 13-A,
Area 13, N&E of Garage, 13-B,
Area 13, N&E of Garage, 13-C,
S 13E, 3', B.G.,
Area 13, S-13F, 3', B.G.,
Area 13, S-13D

Results

	Parts per Million - as received			
	Detected	Detection Limit	Identity	Calculated as
Total Recoverable Petroleum Hydrocarbons by Infrared Spectroscopy	430.	—	—	—

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8080 Organochlorine Pesticides in Soil

Lab Numbers:	S7-05-140-01, S7-05-140-02, S7-05-140-03, S7-05-140-04, S7-05-140-05, S7-05-140-37 (lab composite #10)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Whittier, Area 13, N&E of Garage, 13-A, Area 13, N&E of Garage, 13-B, Area 13, N&E of Garage, 13-C, S-13E, 3', B.G., Area 13, S-13F, 3', B.G., Area 13, S 13D
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
a-BHC	None	0.01
b-BHC	None	0.02
d-BHC	None	0.01
g-BHC	None	0.01
Heptachlor	None	0.01
Aldrin	None	0.01
Heptachlor epoxide	None	0.01
Endosulfan I	None	0.01
Dieldrin	None	0.01
DDE	None	0.01
Endrin	None	0.01
Endosulfan II	None	0.01
4,4'-DDD	None	0.02
Endrin aldehyde	None	0.05
Endosulfan sulfate	None	0.05
4,4'-DDT	None	0.02
Chlordane	None	0.05
Toxaphene	None	0.4
PCB 1016	None	0.1
PCB 1221	None	0.2
PCB 1232	None	0.1
PCB 1242	None	0.1
PCB 1248	None	0.1
PCB 1254	None	0.1
PCB 1260	None	0.1

IT/Santa Clara to IT/Irvine
ATTN: Rick Kent

June 3, 1987

Report of Analysis - Method 8120 Chlorinated Hydrocarbons in Soil

Lab Number:	S7-05-140-01, S7-05-140-02, S7-05-140-03, S7-05-140-04, S7-05-140-05, S7-05-140-37 (lab composite #10)
Project Number:	201804
Sample Identification:	Rocky Mountain Energy, Area 13, N&E of Garage, 13-A, Area 13, N&E of Garage, 13-B, Area 13, N&E of Garage, 13-C, S-13E, 3', B.G, Area 13, S-13F, 3', B.G., Area 13, S-13D
Date Received:	5/22/87

Table of Results - Parts per Million (as received)

Compound	Detected	Detection Limit
1,2-dichlorobenzene	None	0.76
1,3-dichlorobenzene	None	0.80
1,4-dichlorobenzene	None	0.90
1,2,4-trichlorobenzene	None	0.04
Hexachloroethane	None	0.03
Hexachloro-1,3-butadiene	None	0.23
Hexachlorocyclopentadiene	None	0.27
Hexachlorobenzene	None	0.034

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

17605 Fabrica Way • Cerritos, California 90701 • 213-921-9831 / 714-523-9200

CERTIFICATE OF ANALYSIS

Prepared for: IT Corporation
397 Matthew Street
Santa Clara, CA 95050

Attn: Fred Rouse

Date: June 2, 1987

Date Received: May 27, 1987 P.O. Number 189993 R.M. Energy-Whittier Job Number 41360/dai

Nine (9) soil samples labeled: "S7-05-140-07A", "S7-05-140-25A", "S7-05-140-26A", "S7-05-140-27A", "S7-05-140-32A", "S7-05-140-33A", "S7-05-140-34A", "S7-05-140-35A", and "S7-05-140-36A"

Samples 25A, 26A and 27A were extracted as one composite and 32A thru 36A were extracted as another composite. The samples were analyzed for semi-volatile organic contaminants using combined gas chromatography-mass spectrometry according to a modified EPA Method 8270. Results for compounds on the EPA Hazardous Substances List are given on the enclosed summary sheets. Additional semi-volatile (non-priority pollutant) compounds found are listed in Table I.

I certify that this report truly represents the finding of work performed by me or under my direct supervision

Cecilia O. Lei
Chemist

Reviewed and Approved

Richard L. Merrell
Laboratory Director

Table I

Compound	Micrograms Per Kilogram (ppb) Sample ID S7-05-140-07A
Chloro-1H-benzotriazole isomer	20,000
N'-(3-Chlorophenyl)-N,N-dimethyl urea	10,000
Molecular sulfur	30,000
Aliphatic hydrocarbons	200,000
Unknown phthalate	30,000
Unknowns	400,000
	25A, 26A, 27A Composite
Methyl pyrene isomer	1,000
Total aliphatic hydrocarbons	50,000
Total polynuclear aromatic hydrocarbons	20,000
Unknowns	5,000
	32A thru 36A Composite
Total aliphatic hydrocarbon matrix	100,000
Unknowns	9,000

Cerritos Job # 41360
Project # R.M. Energy

Semi-Volatile Organic Compounds
Micrograms Per Kilogram (ppb)

Compound	S7-05-140-07A	25A,26A,27A Composite	32A thru 36A Composite
2-Nitroaniline	ND<150000	ND<15000	ND<5000
Dimethylphthalate	ND<30000	ND<3000	ND<1000
Acenaphthylene	ND<30000	ND<3000	ND<1000
3-Nitroaniline	ND<150000	ND<15000	ND<5000
Acenaphthene	ND<30000	ND<3000	ND<1000
2,4-Dinitrophenol	ND<150000	ND<15000	ND<5000
4-Nitrophenol	ND<150000	ND<15000	ND<5000
Dibenzofuran	ND<30000	ND<3000	ND<1000
2,4-Dinitrotoluene	ND<30000	ND<3000	ND<1000
2,6-Dinitrotoluene	ND<30000	ND<3000	ND<1000
Diethylphthalate	ND<30000	ND<3000	ND<1000
4-Chlorophenylphenyl ether	ND<30000	ND<3000	ND<1000
Fluorene	ND<30000	ND<3000	ND<1000
4-Nitroaniline	ND<150000	ND<15000	ND<5000
4,6-Dinitro-o-cresol	ND<150000	ND<15000	ND<5000
N-Nitrosodiphenylamine	ND<30000	ND<3000	ND<1000
4-Bromophenyl-phenyl ether	ND<30000	ND<3000	ND<1000
Hexachlorobenzene	ND<30000	ND<3000	ND<1000
Pentachlorophenol	ND<150000	ND<15000	ND<5000
Phenanthrene	ND<30000	ND<3000	ND<1000
Anthracene	ND<30000	ND<3000	ND<1000
Di-n-butylphthalate	ND<30000	ND<3000	ND<1000
Fluoranthene	ND<30000	ND<3000	ND<1000
Pyrene	ND<30000	ND<3000	ND<1000
Butylbenzylphthalate	ND<30000	ND<3000	ND<1000
3,3'-Dichlorobenzidine	ND<30000	ND<3000	ND<1000
Benzo(a)anthracene	ND<30000	ND<3000	ND<1000
Bis(2-ethylhexyl)phthalate	ND<30000	TR<3000	ND<1000
Chrysene	ND<30000	ND<3000	ND<1000
Di-n-octylphthalate	ND<30000	ND<3000	ND<1000

INTERNATIONAL TECHNOLOGY CORPORATION

Cerritos Job # 41360
Project # R.M. Energy

Semi-Volatile Organic Compounds
Micrograms Per Kilogram (ppb)

Compound	S7-05-140-07A	25A,26A,27A Composite	32A thru 36A Composite
Phenol	ND<30000	ND<3000	ND<1000
Bis(2-chloroethyl) ether	ND<30000	ND<3000	ND<1000
2-Chlorophenol	ND<30000	ND<3000	ND<1000
1,3-Dichlorobenzene	ND<30000	ND<3000	ND<1000
1,4-Dichlorobenzene	ND<30000	ND<3000	ND<1000
Benzyl alcohol	ND<30000	ND<3000	ND<1000
1,2-Dichlorobenzene	ND<30000	ND<3000	ND<1000
2-Methylphenol	ND<30000	ND<3000	ND<1000
Bis(2-chloroisopropyl) ether	ND<30000	ND<3000	ND<1000
4-Methylphenol	ND<30000	ND<3000	ND<1000
N-Nitroso-di-n-propylamine	ND<30000	ND<3000	ND<1000
Hexachloroethane	ND<30000	ND<3000	ND<1000
Nitrobenzene	ND<30000	ND<3000	ND<1000
Isophorone	ND<30000	ND<3000	ND<1000
2-Nitrophenol	ND<30000	ND<3000	ND<1000
2,4-Dimethylphenol	ND<30000	ND<3000	ND<1000
Benzoic acid	ND<150000	ND<15000	ND<5000
Bis(2-chloroethoxy) methane	ND<30000	ND<3000	ND<1000
2,4-Dichlorophenol	ND<30000	ND<3000	ND<1000
1,2,4-Trichlorobenzene	ND<30000	ND<3000	ND<1000
Naphthalene	ND<30000	ND<3000	ND<1000
4-Chloroaniline	ND<30000	ND<3000	ND<1000
Hexachlorobutadiene	ND<30000	ND<3000	ND<1000
4-Chloro-3-methylphenol	ND<30000	ND<3000	ND<1000
2-Methylnaphthalene	ND<30000	ND<3000	ND<1000
Hexachlorocyclopentadiene	ND<30000	ND<3000	ND<1000
2,4,6-Trichlorophenol	ND<30000	ND<3000	ND<1000
2,4,5-Trichlorophenol	ND<150000	ND<15000	ND<5000
2-Chloronaphthalene	ND<30000	ND<3000	ND<1000

INTERNATIONAL TECHNOLOGY CORPORATION

Cerritos Job # 41360
Project # R.M. Energy

Semi-Volatile Organic Compounds
Micrograms Per Kilogram (ppb)

Compound	S7-05-140-07A	25A,26A,27A Composite	32A thru 36A Composite
Benzo(b)fluoranthene	ND<30000	ND<3000	ND<1000
Benzo(k)fluoranthene	ND<30000	ND<3000	ND<1000
Benzo(a)pyrene	ND<30000	ND<3000	ND<1000
Indeno-(1,2,3-c,d,)pyrene	ND<30000	ND<3000	ND<1000
Dibenzo(a,h)anthracene	ND<30000	ND<3000	ND<1000
Benzo(g,h,i)perylene	ND<30000	ND<3000	ND<1000

ND - This compound was not detected; the limit of detection for this analysis is the amount stated in the table above.

TR - Trace, this compound was present, but was below the level at which concentration could be determined.

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYTICAL SERVICES

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CERTIFICATE OF ANALYSIS

Prepared for: IT Corporation
397 Mathew Street
Santa Clara, CA 95050

Attn: Fred Rouse

Date: May 31, 1987

REC'D JUN 03 1987

Date Received: May 27, 1987 P.O. Number 189993 Job Number 41353/aai
R.M. Energy/Whittier

Three (3) soil samples

The samples were digested with acid. Lead was analyzed by flame atomic absorption spectroscopy. The results are listed below.

	Milligrams Per Kilogram
Sample ID	Lead
S7-05-130-01A-S1	14
S7-05-130-02A-S2	4.8
S7-05-130-03A-S4	19

I certify that this report truly represents the finding of work performed by me or under my direct supervision

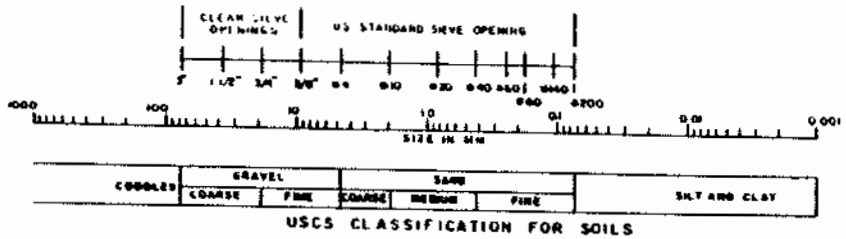
Beth L. Riley
Chemist

Reviewed and Approved

Richard L. Merrell
Laboratory Director

APPENDIX C
LEGEND FOR LOG OF BORINGS AND BORING LOGS

USCS CLASSIFICATION OF COARSE GRAINED MATERIALS

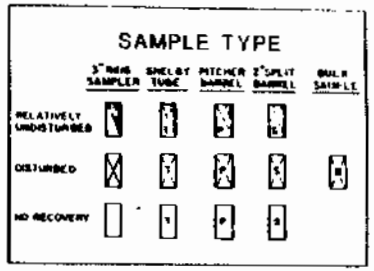


USCS CLASSIFICATION FOR SOILS

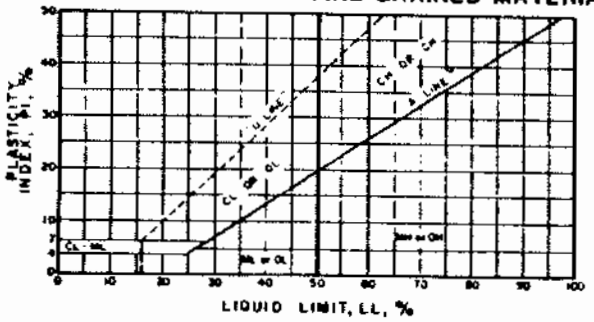
ABBREVIATIONS FOR LABORATORY TESTS

COMP – COMPACTION TEST
PI – ATTERBERG LIMITS
SA – SIEVE ANALYSIS
MA – MECHANICAL ANALYSIS
HYD – HYDROMETER ANALYSIS
CONS – CONSOLIDATION TEST

SAMPLE TYPE



USCS CLASSIFICATION OF FINE GRAINED MATERIALS



UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			GROUP SYMBOLS	GRAPHIC SYMBOLS	TYPICAL NAMES
COARSE-GRAINED SOILS: MORE THAN 50% RETAINED ON NO. 200 SIEVE*	GRAVELS: 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW		Well-graded gravels and gravel-sand mixtures, little or no fines
			GP		Poorly graded gravels and gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES	GM		Silty gravels, gravel-sand-silt mixtures
			GC		Clayey gravels, gravel-sand-clay mixtures
	SANDS: More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS	SW		Well-graded sands and gravelly sands, little or no fines
			SP		Poorly graded sands and gravelly sands, little or no fines
		SANDS WITH FINES	SM		Silty sands, sand-silt mixtures
			SC		Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS: 50% OR MORE PASSES NO. 200 SIEVE*	SILTS AND CLAYS: Liquid limit 50% or less		ML		Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL		Organic silts or organic clays of low plasticity
	SILTS AND CLAYS: Liquid limit greater than 50%		MH		Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
			CH		Inorganic clays of high plasticity, fat clay
			OH		Organic clays of medium to high plasticity
HIGHLY ORGANIC SOILS			PT		Peat, muck and other highly organic soils

* BASED ON THE MATERIAL PASSING THE 3-INCH (75-mm) SIEVE
REFERENCE: ASTM STANDARD D2487

DENSITY OF GRANULAR SOILS

DESIGNATION	SPT BLOWS PER FOOT
VERY LOOSE	0 – 4
LOOSE	5 – 10
MEDIUM DENSITY	11 – 30
DENSE	31 – 50
VERY DENSE	OVER 50

CONSISTENCY OF COHESIVE SOIL

CONSISTENCY	FIELD IDENTIFICATION	UNCONFINED COMPRESSIVE STRENGTH q_u (TONS/SQ FT)
VERY SOFT	EASILY PENETRATED SEVERAL INCHES BY FIST	LESS THAN 0.25
SOFT	EASILY PENETRATED SEVERAL INCHES BY THUMB	0.25 – 0.5
MEDIUM STIFF	PENETRATED SEVERAL INCHES BY THUMB WITH MODERATE PRESSURE	0.5 – 1.0
STIFF	READILY INDENTED BY THUMB BUT PENETRATED WITH GREAT EFFORT	1.0 – 2.0
VERY STIFF	READILY INDENTED BY THUMBNAIL	2.0 – 4.0
HARD	INDENTED WITH DIFFICULTY BY THUMBNAIL	OVER 4.0

NOTES

(1) UPPER CASE USED FOR LABORATORY MODIFIED USCS CLASSIFICATIONS

(2) LOWER CASE USED FOR FIELD USCS CLASSIFICATIONS

(3) DUAL USCS SYMBOL, SUCH AS (SP-SM) INDICATES 5 TO 12% OF MINOR CONSTITUENT

(4) BORDER LINE SYMBOL, SUCH AS (CL-CH) DENOTES SOIL HAVING PROPERTIES THAT DO NOT DISTINCTLY PLACE THE SOIL IN A SPECIFIC GROUP

(5) SUBSURFACE INFORMATION FROM BORING AND TEST PIT LOGS DEPICT CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND DATES INDICATED. SOIL CONDITIONS AND WATER LEVELS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS AT THESE LOCATIONS. ALSO THE CONDITIONS AT THESE LOCATIONS MAY CHANGE WITH TIME

(6) BLOW COUNTS ON LOGS ARE THE NUMBER OF BLOWS TO DRIVE THE SAMPLER 12 INCHES WITH A 140 POUND HAMMER FALLING 30 INCHES

▽ – GROUND WATER FIRST ENCOUNTERED

▼ – 1-1-84 WATER LEVEL AND DATE MEASURED

LEGEND FOR LOG OF BORINGS AND TEST PITS

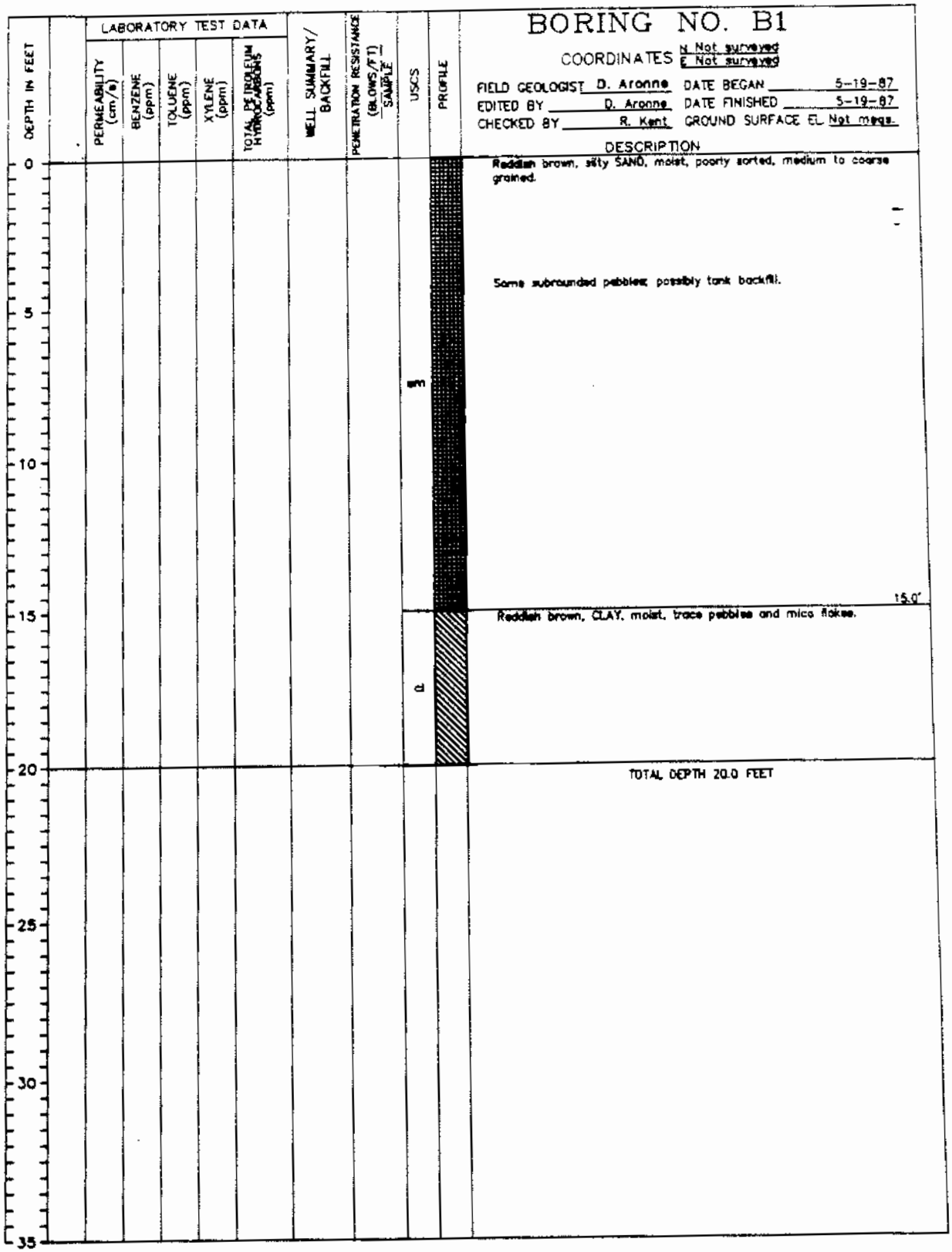
IT

Creating a Safer Tomorrow

BORING NO. B1

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-19-87
EDITED BY D. Aronne DATE FINISHED 5-19-87
CHECKED BY R. Kent GROUND SURFACE EL. Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

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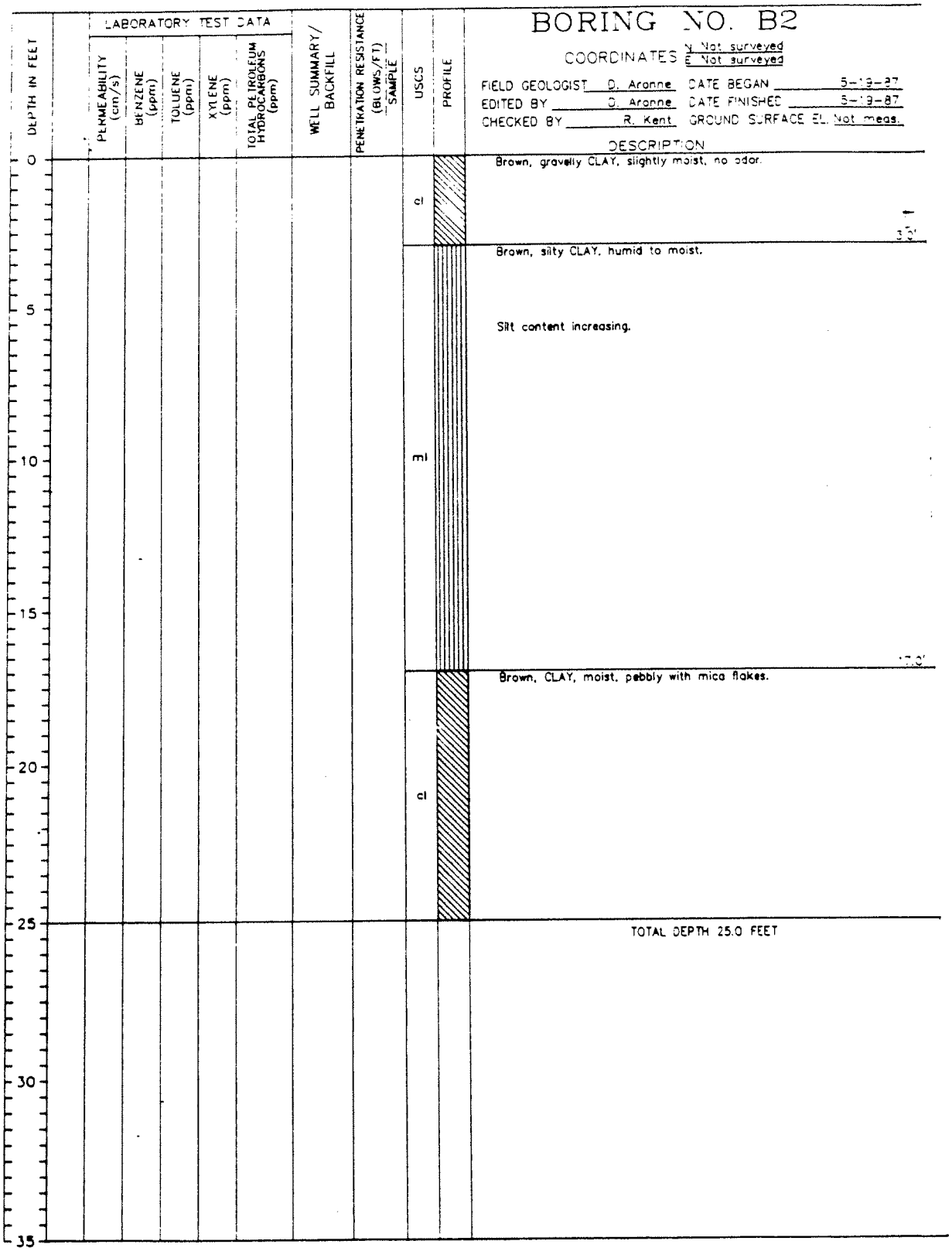
BORING NO. B2

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-19-87
EDITED BY D. Aronne DATE FINISHED 5-19-87
CHECKED BY R. Kent GROUND SURFACE EL. Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

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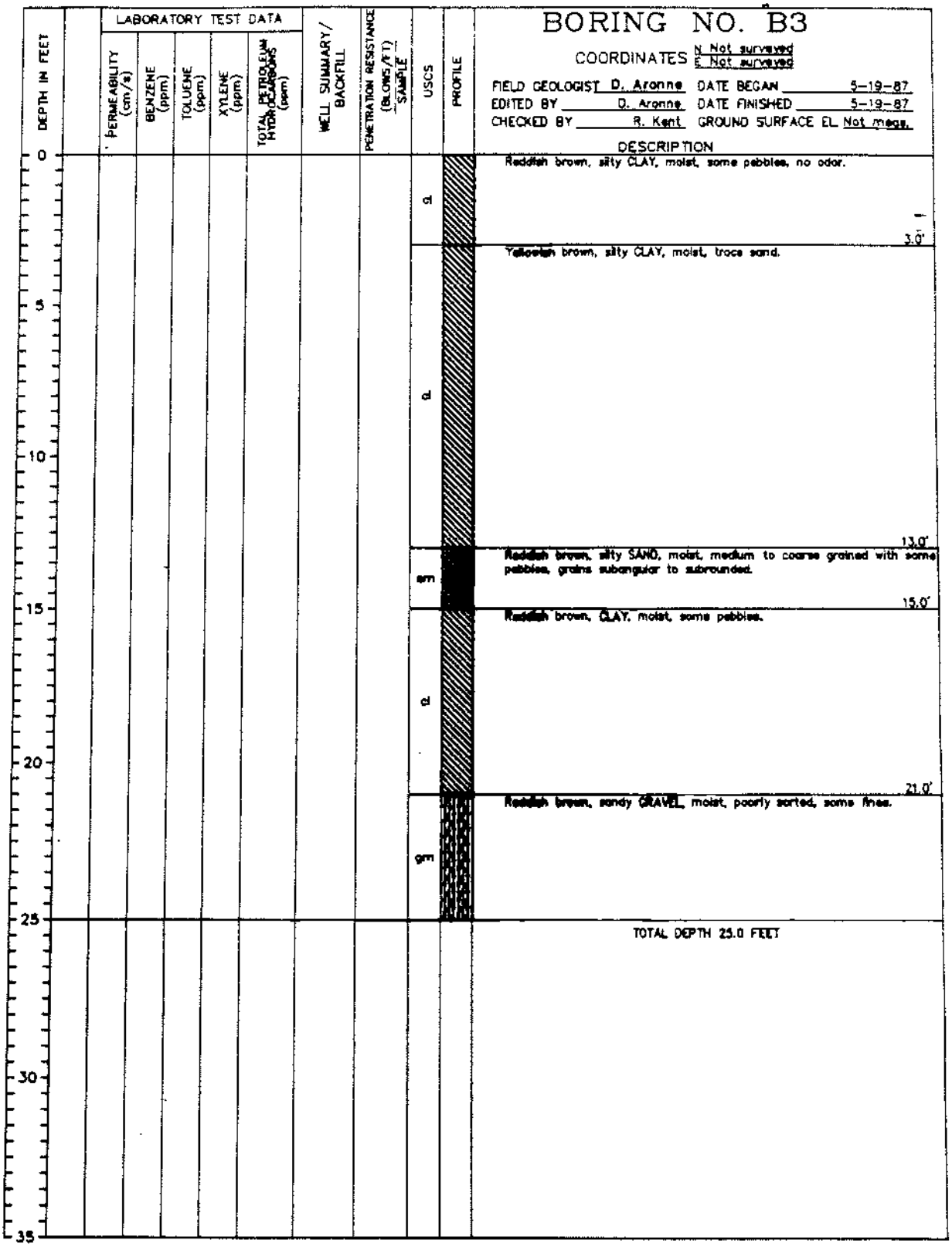
BORING NO. B3

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-19-87
EDITED BY D. Aronne DATE FINISHED 5-19-87
CHECKED BY R. Kent GROUND SURFACE EL. Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

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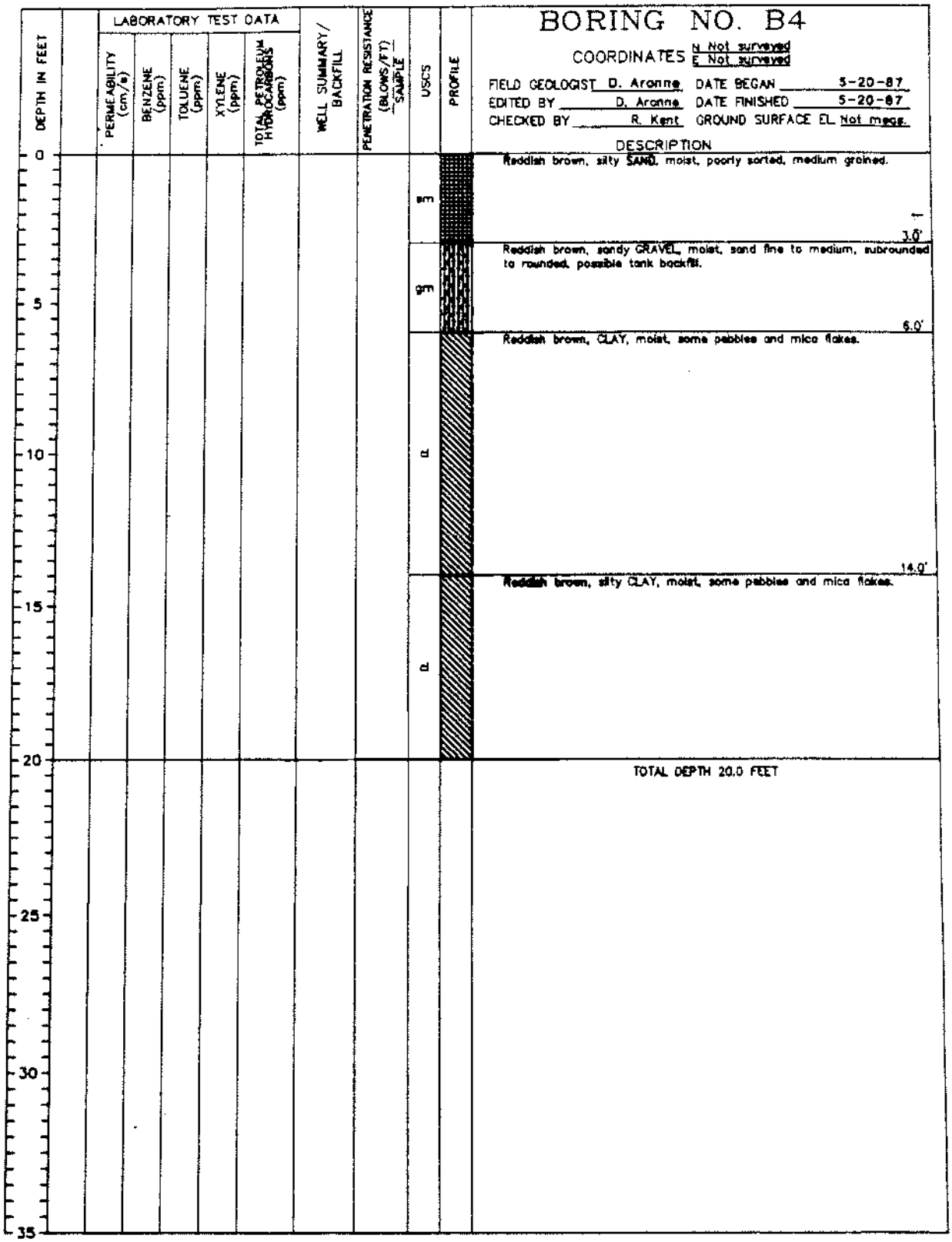
BORING NO. B4

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-20-87
EDITED BY D. Aronne DATE FINISHED 5-20-87
CHECKED BY R. Kent GROUND SURFACE EL. Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

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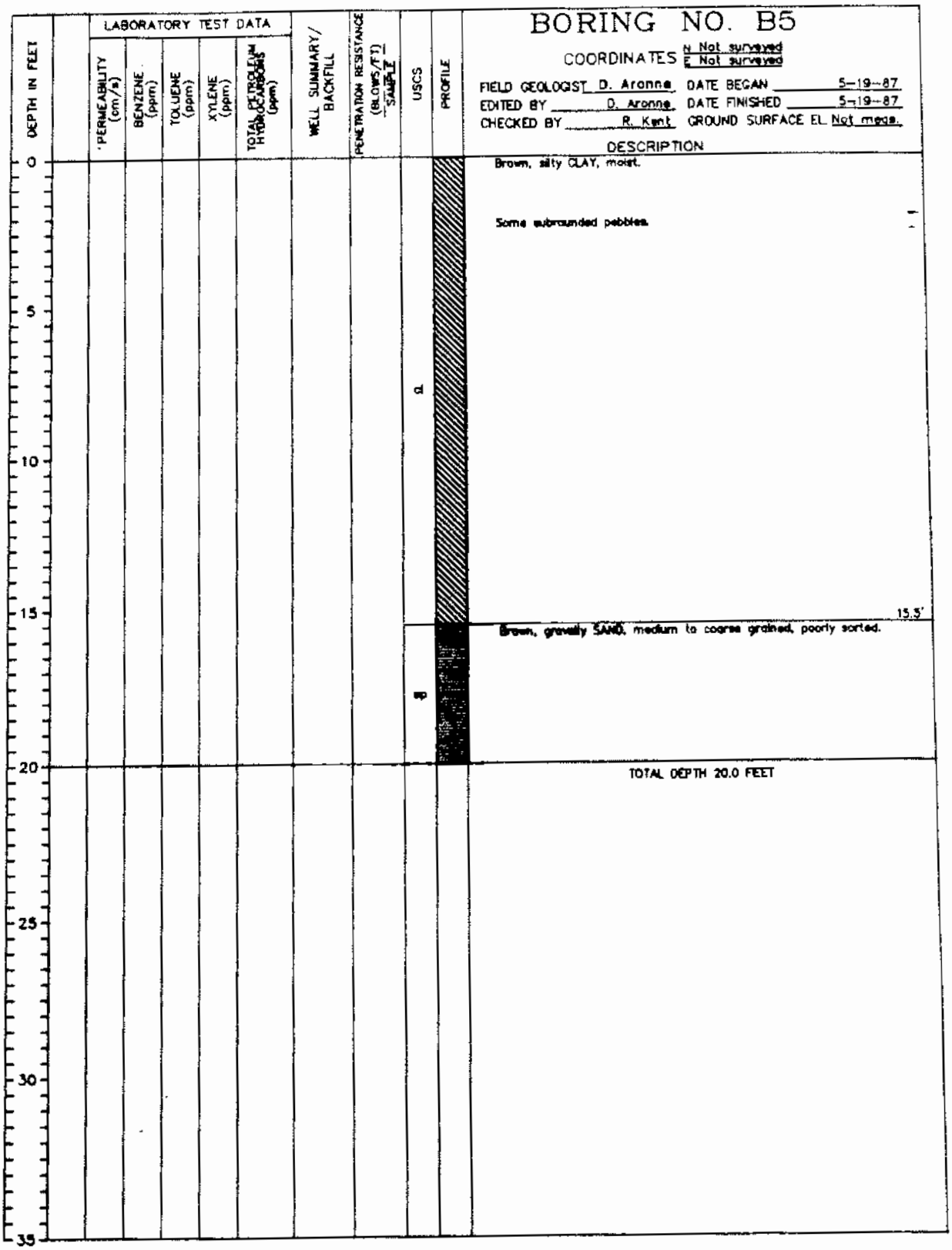
BORING NO. B5

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-19-87
EDITED BY D. Aronne DATE FINISHED 5-19-87
CHECKED BY R. Kent GROUND SURFACE EL. Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

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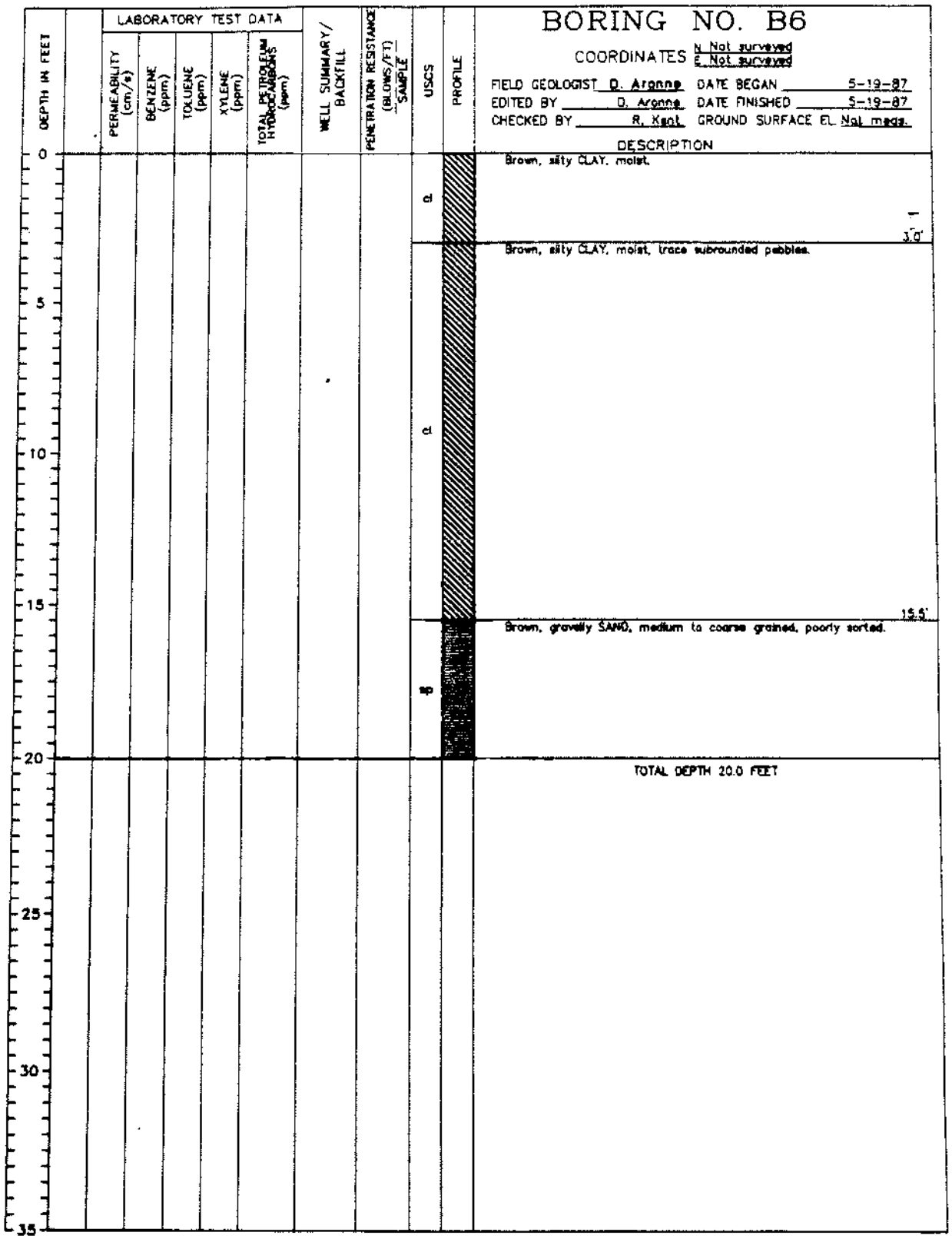
BORING NO. B6

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Argonne DATE BEGAN 5-19-87
EDITED BY D. Argonne DATE FINISHED 5-19-87
CHECKED BY R. Xaat GROUND SURFACE EL Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

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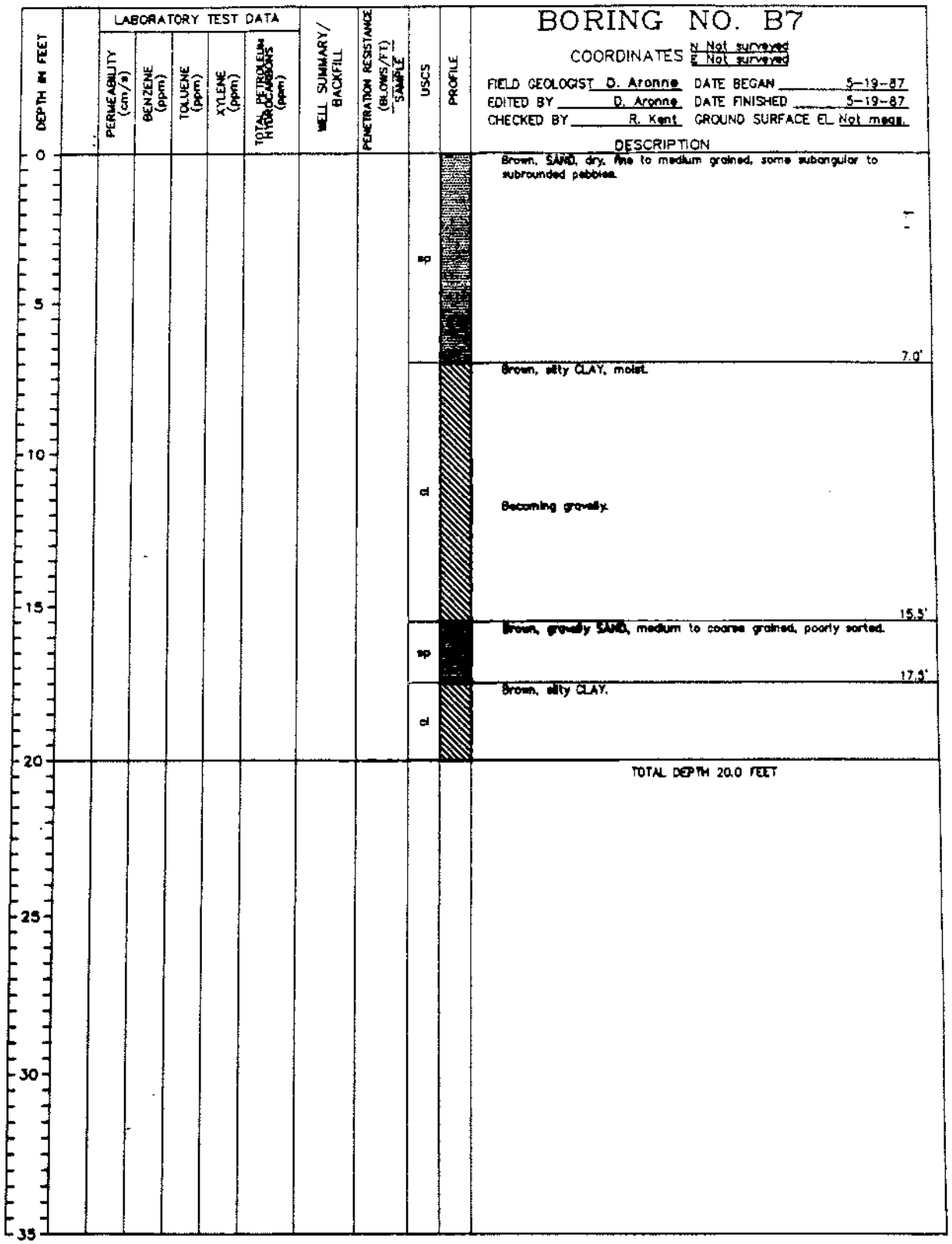
BORING NO. B7

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-19-87
EDITED BY D. Aronne DATE FINISHED 5-19-87
CHECKED BY R. Kent GROUND SURFACE EL. Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

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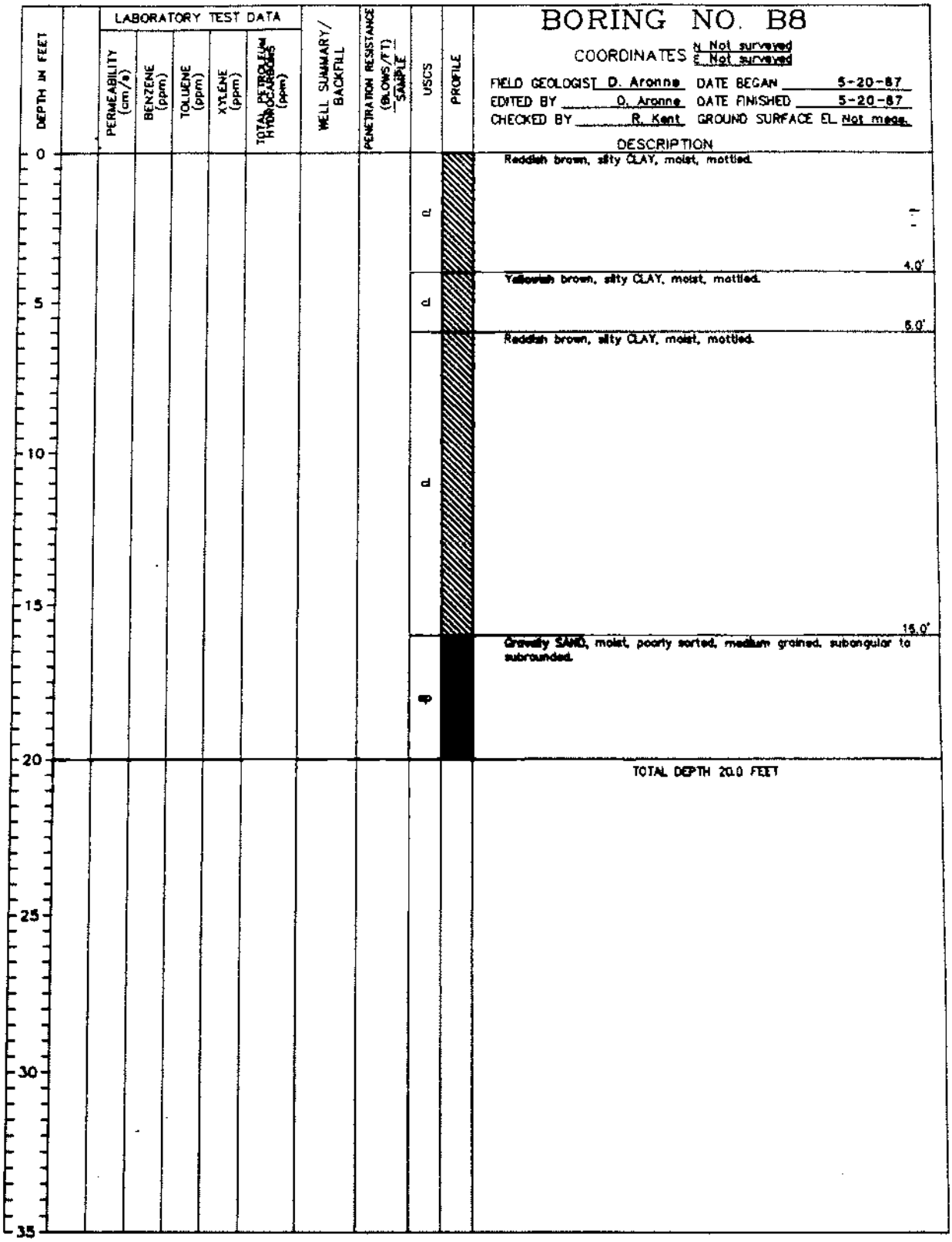
BORING NO. B8

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-20-87
EDITED BY D. Aronne DATE FINISHED 5-20-87
CHECKED BY R. Kent GROUND SURFACE EL. Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

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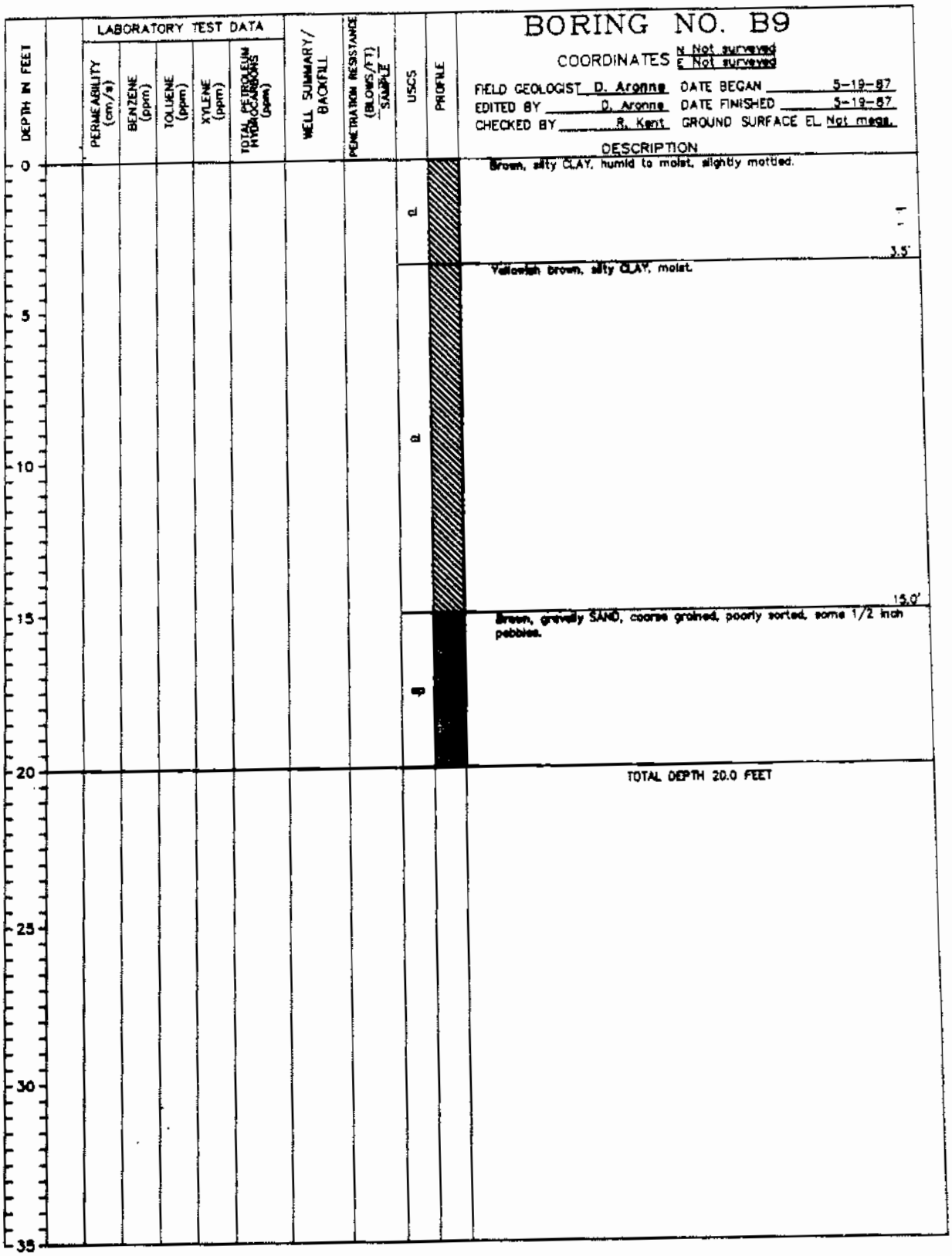
BORING NO. B9

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-19-87
EDITED BY D. Aronne DATE FINISHED 5-19-87
CHECKED BY R. Kent GROUND SURFACE EL. Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

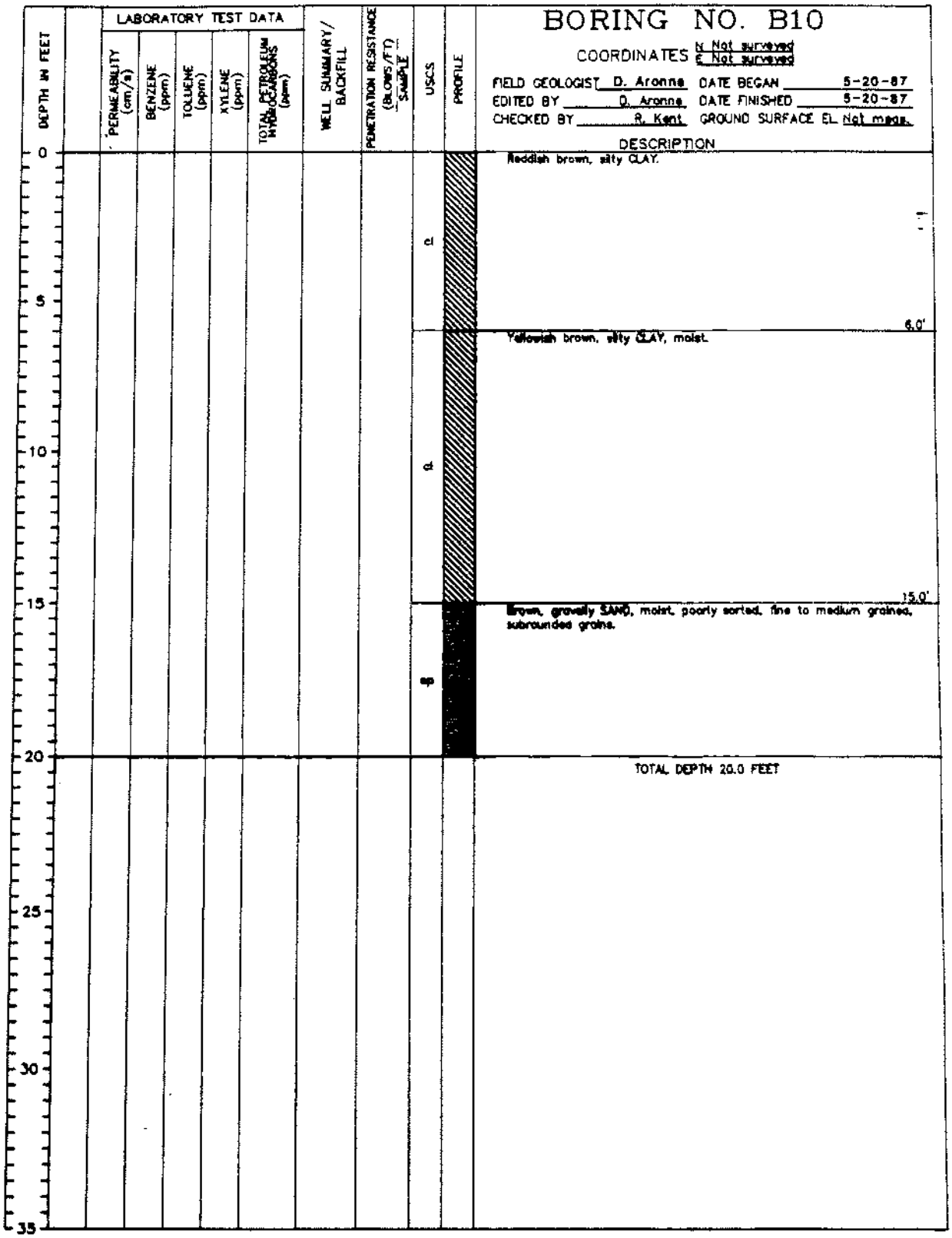
SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

IT ...Creating a Safer Tomorrow

BORING NO. B10

COORDINATES N Not surveyed
E Not surveyed

FIELD GEOLOGIST D. Aronne DATE BEGAN 5-20-87
EDITED BY D. Aronne DATE FINISHED 5-20-87
CHECKED BY R. Kent GROUND SURFACE EL Not meas.



PROJECT NO. 201804
CLIENT: UNION PACIFIC CORPORATION

SEE LEGEND FOR LOGS AND TEST PITS
FOR EXPLANATION OF SYMBOLS AND TERMS

IT ...Creating a Safer Tomorrow

APPENDIX D
MATERIAL SAFETY DATA SHEETS

Dear Customer: This Bulletin contains important environmental, health and toxicology information for your employees who recently ordered this product. Please make sure this information is given to them. If you resell this product, this Bulletin should be given to the Buyer. This Form may be reproduced without permission

Chevron U.S.A. Inc.

Material Safety Data Sheet

Prepared According to the OSHA Hazard Communication Standard (29 CFR 1910.1200).
(Formerly Called MATERIAL INFORMATION BULLETIN)

CHEVRON Weed Oil

CPS 276506

CAUTION! **HARMFUL OR FATAL IF SWALLOWED**
COMBUSTIBLE
KEEP OUT OF REACH OF CHILDREN

TYPICAL COMPOSITION

Light catalytically-cracked distillate (CAS 64741-59-9)	>99%
Emulsifier	<1%

EXPOSURE STANDARD

No Federal OSHA exposure standard or ACGIH TLV has been established for this material. However, due to possible carcinogenic effect, exposure should be reduced to the lowest feasible level.

PHYSIOLOGICAL & HEALTH EFFECTS

EMERGENCY & FIRST AID PROCEDURES

Eyes

Expected to cause no more than minor eye irritation.

Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. If irritation persists, see a doctor.

Skin

Prolonged or frequently repeated contact may cause skin irritation or may cause the skin to become cracked or dry from the defatting action of this material. See Additional Health Data.

Remove contaminated clothing.

Inhalation

Breathing the vapor may be irritating to the respiratory tract and can cause central nervous system effects. See Additional Health Data.

If respiratory irritation or any signs or symptoms as described in this bulletin occur, move the person to fresh air. If any of these effects continue, see a doctor.

Ingestion

Not expected to have acute systemic toxicity by ingestion. **Note to Physician:** Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid which can cause pneumonitis.

If swallowed, give water or milk to drink and telephone for medical advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

ADDITIONAL HEALTH DATA

See Page 3.

SPECIAL PROTECTIVE INFORMATION

Eye Protection: No special eye protection is necessary.
Skin Protection: Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective clothing including rubber gloves.
Respiratory Protection: If operating conditions result in airborne mists or vapors of this material, the use of an approved respirator is recommended.
Ventilation: Use this material only in well ventilated areas.

FIRE PROTECTION

Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 85°F.
Flash Point: (PM)150°F(66°C) Min.
Autoignition Temp.: 260°C
Flammability Limits: 1.0-6.0%
Extinguishing Media: CO_2, Dry Chemical, Foam, Water Fog.
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. See Hazardous Decomposition Products. Read the entire MSDS.

SPECIAL PRECAUTIONS

See Page 3.

ENVIRONMENTAL PROTECTION

Environmental Impact: This material is not expected to present any environmental problems other than those associated with oil spills. For help with any spill, leak, fire, or exposure involving this material, call day or night (415)233-3737.
Precautions if Material is Released or Spilled: Eliminate all open flame in vicinity of spill or released vapor. Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Special Protective Information. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.
Waste Disposal Methods: Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable.
Incompatibility (Materials to Avoid): May react with strong oxidizing materials.
Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur; incomplete combustion can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

PHYSICAL PROPERTIES

See Page 3.

Material Safety Data Sheet

CHEVRON Weed Oil CPS 276506

ADDITIONAL HEALTH DATA

Signs and symptoms of central nervous system effects may include one or more of the following: headache, dizziness, loss of appetite, weakness and loss of coordination. Affected persons usually experience complete recovery when removed from the exposure area.

This material is of varying composition and may contain significant amounts of polynuclear aromatic hydrocarbons (PNAs) which have been shown to cause skin cancer after prolonged or frequent contact with the skin of test animals. When a similar material was repeatedly applied to the skin of mice, there was a moderate increase in skin cancer. We strongly recommend that the precautions outlined in this MSDS be followed to reduce skin contact and inhalation of mists or vapors to a minimum.

SPECIAL PRECAUTIONS

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

DO NOT USE OR STORE near flame, sparks or hot surfaces. USE ONLY IN WELL VENTILATED AREA. Keep container closed.

DO NOT weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous or explosive vapor or liquid.

CAUTION! Do not use pressure to empty drum or explosion may result.

PHYSICAL PROPERTIES

Solubility: Miscible with hydrocarbon solvents; emulsifies with water.
Appearance (Color, Odor, etc.): Amber liquid.
Boiling Point: 180-343°C
Melting Point: n/a
Specific Gravity: 0.89 @ 15.6/15.6°C (Min.)
Vapor Pressure: <1 mm Hg @ 25°C
Vapor Density (Air=1): NDA
Percent Volatile (Volume %): NDA
Evaporation: NDA
Viscosity: 2.5 cSt @ 40°C

n/a = Not Applicable
NDA = No Data Available

MATERIAL SAFETY DATA SHEET

FCC LIGHT CYCLE OIL

MSDS No. APPC 860

Rev. Date 10/24/85

ARCO PETROLEUM PRODUCTS COMPANY
DIVISION OF ATLANTIC RICHFIELD COMPANY
515 SOUTH FLOWER STREET
LOS ANGELES, CALIFORNIA 90071

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product
This product is considered a hazardous substance under the OSHA Hazard Communication Rule.

I. General

Trade Name	FCC LIGHT CYCLE OIL
Other Names	FLUID CATALYTIC CRACKER UNIT LIGHT CYCLE OIL FCCU LIGHT CYCLE OIL OR FCCU LCO CUTTER STOCK--HIGH SULFUR

Telephone Numbers
EMERGENCY
800/424-9300 CHEMTREC
213/484-5151 LA POISON
CUSTOMER SERVICE
213/486-8258 INFO ONLY

Chemical Family	PETROLEUM HYDROCARBONS
DOT Hazardous Materials Proper Shipping Name	PETROLEUM DISTILLATE
Generic Name	LIGHT CATALYTIC CRACKED DISTILLATE
DOT Hazard Class	COMBUSTIBLE LIQUID

CAS No. 64741-59-9*	**Company ID No.** 1031620669	**UN/NA ID No.** UN 1268

II. DANGER — Summary of Hazards

MAY CAUSE SKIN IRRITATION OR MORE SERIOUS DISORDERS!*
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN!
AVOID PROLONGED AND/OR REPEATED SKIN CONTACT.
WASH THOROUGHLY AFTER HANDLING.
MAY CAUSE MILD EYE IRRITATION!
AVOID CONTACT WITH LIQUID AND/OR VAPORS.
CONTAINS PETROLEUM DISTILLATES!
IF SWALLOWED, DO NOT INDUCE VOMITING SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. OBTAIN PROMPT MEDICAL ATTENTION.
MAY BE HARMFUL IF INHALED! (SEE SECTIONS IV. & V.)
MODERATELY COMBUSTIBLE! OSHA/NFPA CLASS IIIA COMBUSTIBLE LIQUID.
AVOID THE "SWITCH LOADING" HAZARD. (SEE SECTION XI.)
*** CONTAINS 4- TO 6- MEMBERED CONDENSED-RING AROMATIC HYDROCARBONS!**
(SEE SECTION IV. "SUMMARY OF CHRONIC HAZARDS AND SPECIAL HEALTH EFFECTS.")

III. Fire and Explosion

Flash Point (Method)	**Autoignition Temperature (Method)**	**Flammable Limits (% Vol. in Air) At Normal Atmospheric Temperature and Pressure**
AP 160°F (D-92) SEE "FIRE & EXPLOSION HAZARDS"	AP 500°F (EST.) BASED UPON "FUEL OIL NO. 2"	Lower AP 0.6 Upper AP 7.5 BASED UPON "FUEL OIL NO. 2"

Fire and Explosion Hazards
MODERATELY COMBUSTIBLE! WHEN HEATED ABOVE THE FLASH POINT, THIS MATERIAL WILL RELEASE FLAMMABLE VAPORS WHICH IF EXPOSED TO AN IGNITION SOURCE CAN BURN IN THE OPEN OR BE EXPLOSIVE IN CONFINED SPACES. MISTS OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE NORMAL FLASH POINT.
FOR "SWITCH LOADING" PROCEDURES, SEE SECTION XI.

Extinguishing Media
DRY CHEMICAL, HALON, AND CARBON DIOXIDE. FOAM AND WATER FOG ARE EFFECTIVE BUT MAY CAUSE FROTHING.

Special Firefighting Procedures
FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED OR CONFINED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT. THIS MAY INCLUDE SELF-CONTAINED BREATHING APPARATUS TO PROTECT AGAINST THE HAZARDOUS EFFECTS OF COMBUSTION PRODUCTS AND OXYGEN DEFICIENCES. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER.

IV. Health Hazards

Summary of Acute Hazards	LIQUID/VAPOR CONTACT CAN IRRITATE EYES. INHALATION OF VAPORS/MISTS MAY LEAD TO CNS DEPRESSION. ASPIRATION INTO LUNGS WILL CAUSE CHEMICAL PNEUMONIA.

ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	Primary Route(s)
Inhalation	THIS MATERIAL MAY CAUSE SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION DEPENDING ON CONCENTRATION AND TIME OF EXPOSURE.	[X]
Eye Contact	MILD EYE IRRITATION MAY RESULT FROM CONTACT WITH LIQUID, MIST, AND/OR VAPORS.	[X]
Skin Absorption	AFTER PROLONGED AND REPEATED CONTACT WITH LARGE AMOUNTS OF THIS MATERIAL, ABSORPTION THROUGH THE SKIN MAY OCCUR AND PRODUCE TOXIC EFFECTS.	[X]
Skin Irritation	SHORT-TERM EXPOSURE TO THIS MATERIAL IS NOT EXPECTED TO BE IRRITATING. PROLONGED OR REPEATED SKIN CONTACT MAY RESULT IN IRRITATION OR MORE SERIOUS SKIN DISORDERS. (SEE "SUMMARY OF CHRONIC HAZARDS" BOX BELOW.)	[ ]
Ingestion	THIS MATERIAL MAY INDUCE NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS AFTER INGESTION. ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA.	[ ]

Summary of Chronic Hazards and Special Health Effects	THIS PRODUCT HAS NOT BEEN TESTED IN LONG-TERM EXPOSURE STUDIES. HOWEVER, ANALYTICAL RESULTS SHOW THAT IT IS LIKELY TO CONTAIN BETWEEN 0.1 AND 1 WT.% OF 4- TO 6-MEMBERED CONDENSED-RING AROMATIC HYDROCARBONS. SOME COMPOUNDS OF THIS TYPE CAN INDUCE SKIN TUMORS ON LABORATORY ANIMALS FOLLOWING PROLONGED AND REPEATED CONTACT. MINIMIZE EMPLOYEE EXPOSURE! PERSONNEL WITH PRE-EXISTING SKIN DISORDERS OR CHRONIC RESPIRATORY DISEASES SHOULD AVOID EXPOSURE TO THIS PRODUCT.

V. Protective Equipment and Other Control Measures

Respiratory	THIS MATERIAL IS NOT EXPECTED TO PRESENT A RESPIRATORY HAZARD BECAUSE OF ITS LOW VAPOR PRESSURE. BUT, IF EXCESSIVE MIST OR VAPORS RESULT FROM CONDITIONS OF USE, WEAR PROPER NIOSH/MSHA-APPROVED RESPIRATORY EQUIPMENT.
Eye	EYE PROTECTION SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN. SUITABLE EYE WASH WATER SHOULD BE AVAILABLE.
Skin	AVOID PROLONGED AND/OR REPEATED SKIN CONTACT. IF CONDITIONS OR FREQUENCY OF USE MAKE SIGNIFICANT CONTACT LIKELY, CLEAN AND IMPERVIOUS CLOTHING SUCH AS GLOVES, APRON, BOOTS, AND FACIAL PROTECTION SHOULD BE WORN.
Engineering Controls	USE ADEQUATE VENTILATION TO KEEP VAPOR CONCENTRATIONS OF THIS MATERIAL BELOW APPLICABLE EXPOSURE LIMITS (SEE SECTIONS VI. AND XI.).
Other Hygienic and Work Practices	WASH HANDS WITH PLENTY OF SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USE OF TOILET FACILITIES. DO NOT USE GASOLINE, SOLVENTS, KEROSENE, OR HARSH ABRASIVE SKIN CLEANERS FOR WASHING EXPOSED SKIN AREAS. TAKE A SHOWER AFTER WORK IF GENERAL CONTACT OCCURS. REMOVE OIL-SOAKED CLOTHING AND LAUNDER BEFORE REUSE. LAUNDER OR DISCARD CONTAMINATED LEATHER GLOVES AND SHOES.

VI. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time
KEROSENE (DHEW PUB. 77-192) SEE SECT. XI	NIOSH	1977	TWA	100 MG/M3	10 HRS
			STEL	1800 MG/M3	15 MIN
PPAH (BENZENE SOLUBLES) SEE SECTION XI.	ACGIH	1985	TLV	0.2 MG/M3	8 HRS
CTPV (BENZENE SOLUBLES) SEE SECTION XI.	OSHA	1985	PEL	0.2 MG/M3	8 HRS
OIL MIST; MINERAL	ACGIH/OSHA	1985	TLV	5 MG/M3	8 HRS
			STEL	10 MG/M3	15 MIN

VII. Emergency and First Aid

Inhalation	REMOVE PERSONNEL FROM CONTAMINATED AREA TO FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE AIR, OXYGEN, OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN MEDICAL ATTENTION IF BREATHING DIFFICULTIES CONTINUE.
Eye Contact	FLUSH WITH CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ATTENTION.
Skin Contact	PROMPTLY REMOVE CONTAMINATED CLOTHING AND THOROUGHLY CLEAN BEFORE REUSE. CLEAN OR DISCARD CONTAMINATED LEATHER GOODS. THROUGHLY WASH AFFECTED SKIN WITH SOAP AND WATER.
Ingestion	DO NOT INDUCE VOMITING, SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. IF ASPIRATION OCCURS, PROMPTLY OBTAIN MEDICAL ATTENTION.
Emergency Medical Treatment Procedures	SEE ABOVE PROCEDURES.

VIII. Spill and Disposal

Precautions if Material is Spilled or Released	CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. SPILL MAY CREATE SLIPPING HAZAROS. PREVENT FROM ENTERING ALL WATER BODIES, IF POSSIBLE. EVACUATE ALL NON-ESSENTIAL PERSONNEL. IN URBAN AREAS, CLEANUP AS SOON AS POSSIBLE; IN NATURAL ENVIRONMENTS, CLEANUP ON ADVICE FROM ECOLOGISTS. THIS MATERIAL WILL FLOAT ON WATER. ABSORBANT MATERIAL AND PADS CAN BE USED. COMPLY WITH ALL APPLICABLE LAWS. SPILLS MAY NEED TO BE REPORTED TO THE NATIONAL RESPONSE CENTER (800/424-8802). THE SPILLED MATERIAL AND ANY WATER OR SOIL WHICH IT HAS CONTACTED MAY BE HAZARDOUS TO ANIMAL/AQUATIC LIFE.
Waste Disposal Methods	MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. USED OR CONTAMINATED PRODUCT COULD BE AN EPA "IGNITABLE HAZARDOUS WASTE" (D001). USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS. IF SPILL IS INTRODUCED INTO A WASTEWATER SYSTEM, THE CHEMICAL AND BIOLOGICAL OXYGEN DEMAND WILL LIKELY INCREASE. SPILL MATERIAL IS BIODEGRADABLE IF GRADUALLY EXPOSED TO MICRO-ORGANISMS. POTENTIAL TREATMENT AND DISPOSAL METHODS INCLUDE LAND FARMING, INCINERATION AND LAND DISPOSAL, IF PERMITTED.

IX. Components {This may not be a complete list of components}

Component Name	CAS No.	Carcinogen##		Composition amount (Wt.) (See Qualification on Page 4)
LIGHT CATALYTIC CRACKED DISTILLATE (PETROLEUM)	64741-59-9*	N/AP	EQ	100 PERCENT
(THIS MATERIAL IS LIKELY TO CONTAIN		N/AP		
BETWEEN 0.1 & 1 WT.% OF 4- TO 6-MEMBERED		N/AP		
CONDENSED-RING AROMATIC HYDROCARBONS.)		N/AP		

##Listed By: 1 = NTP, 2 = IARC, 3 = OSHA, 4 = Other

Compositions given are typical values, not specifications.

X. Physical and Chemical Data

Boiling Point AP 450° TO 675° F	**Viscosity Units, Temp. (Method)** AP 35 SUS AT 100° F (D2161)		**Dry Point** N/AP
Freezing Point AP -25° F	**Vapor Pressure** (REID-PSIA AT 100° F) LT 0.1		**Volatile Characteristics** SLIGHT
Specific Gravity (H_2O = 1 at 39.2° F) AP 0.94	**Vapor Sp. Gr. (Air = 1.0 at 60° - 90° F)** AP 7	**Solubility in Water** NEGLIGIBLE	**pH** N/AP
Hazardous Polymerization NOT EXPECTED TO OCCUR	**Other Chemical Reactivity** N/P		**Stability** STABLE

Other Physical and Chemical Properties: POUR POINT TEMPERATURE = AP -10° F. (ASTM D-97).
TYPICAL SULFUR CONTENT = AP 1.2 WT.% (ASTM D-2622)

Appearance and Odor: YELLOW TO AMBER-COLORED LIQUID;
STRONG KEROSENE-TYPE ODOR.

Conditions to Avoid: HEAT AND IGNITION SOURCES.

Materials to Avoid: STRONG ACIDS, ALKALIES, AND OXIDIZERS SUCH AS LIQUID CHLORINE AND OXYGEN.

Hazardous Decomposition Products: BURNING OR EXCESSIVE HEATING MAY PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES/VAPORS INCLUDING OXIDES AND/OR OTHER COMPOUNDS OF SULFUR AND NITROGEN.

XI. Additional Precautions

Handling, Storage and Decontamination Procedures: SPECIAL SLOW LOAD PROCEDURES FOR "SWITCH LOADING" MUST BE FOLLOWED TO AVOID THE STATIC IGNITION HAZARD THAT CAN EXIST WHEN THIS MATERIAL IS LOADED INTO TANKS PREVIOUSLY CONTAINING GASOLINE OR OTHER LOW FLASH POINT PRODUCTS. (SEE A.P.I. PUBLICATION 2003.) KEEP CONTAINERS CLOSED AND AWAY FROM HEAT AND IGNITION SOURCES! ALL ELECTRICAL EQUIPMENT IN AREAS WHERE PRODUCT IS STORED/HANDLED SHOULD BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, N.F.P.A. DO NOT USE THIS PRODUCT AS A CLEANING AGENT. EMPTY CONTAINERS RETAIN SOME LIQUID AND VAPOR RESIDUES, AND HAZARD PRECAUTIONS MUST BE OBSERVED WHEN HANDLING EMPTY CONTAINERS.

General Comments: SPECIFIC EXPOSURE STANDARDS/CONTROL LIMITS FOR THIS MATERIAL HAVE NOT BEEN AGREED UPON; THEREFORE, BOTH ACGIH TLV CONTROL GUIDELINES (SEE SECTION VI.) ARE SUGGESTED FOR INTERIM USE UNTIL SPECIFIC STANDARDS/CONTROL LIMITS ARE ADOPTED. THE PARTICULATE POLYCYCLIC ARDMATIC HYDROCARBONS (PPAH) TLV IS BASES UPON COAL TAR PITCH VOLATILES (AS BENZENE SOLUBLES), NOT UPON PETROLEUM DISTILLATE.

MATERIALS SIMILAR TO SOME COMPONENTS IN THIS PRODUCT WERE FOUND TO BE MUTAGENIC IN "IN VITRO" AND "IN VIVO" LABORATORY TESTS. THE EXACT RELATIONSHIP BETWEEN THESE RESULTS AND POSSIBLE HUMAN EFFECTS IS NOT KNOWN.

SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

- - - Note - - - Qualifications: EQ = Equal; LT = Less Than; GT = Greater Than; AP = Approximately; UK = Unkown; TR = Trace; N/P = No Applicable Information Found; N/AP = Not Applicable; N/DA = No Data Available